A Clinical Lecture

ON

PTOSIS OF THE LIVER AND THE "FLOATING LOBE."[1]

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GENTLEMEN,—I propose to deal this afternoon with the condition known as ptosis of the liver and with that strange tumour which is a phase of this ptosis and which has been styled the "floating lobe." These abnormalities of the liver are not common, but they are of interest inasmuch as they produce "abdominal tumours" which have been the source of no little confusion in diagnosis and have been the subject of questionable methods of treatment.

DEFINITIONS.

By ptosis of the liver is meant a sinking down or dropping of the liver in the abdominal cavity. The displacement is such that the gland leaves its position under the dome of the diaphragm and becomes in extreme cases apparently free in the peritoneal space. The terms "prolapse of the liver" and "dislocation of the liver" have been applied to this condition and little exception can be taken to the phrases. The abnormality is, however, not fitly expressed by the terms "moveable," "wandering," or "floating" liver. The liver is normally moveable and in ptosis of the organ the increase in mobility is quite secondary and subordinate to the change in situation. The liver in these cases can, moreover, hardly be said to float as does the kidney in an allied condition nor is its range of unusual movement such as to allow it to be compared to the "wandering" spleen. In ptosis of the liver it is assumed that the prolapsed organ is sound or is at least free from gross disease and also that it has not been displaced by mechanical means such as by deformity of the spine or thorax or by pleuritic effusion or the like. In fact, in hepatoptosis a liver practically sound has left its place under the ribs and is discovered as a free abdominal tumour in the belly cavity.

The "floating lobe" represents a condition which is quite distinct from the simple ptosis or state of prolapse which has just been defined. In the case of the "floating" lobe the main body of the liver need not have sunk downwards and the upper limit of hepatic dulness need not be other than normal. A portion of the right lobe of the liver has, however, become projected downwards in the form of a large tongue-like appendage. This unusual lobe hangs down in the right flank and readily reaches to the iliac crest or passes well into the right iliac fossa. It is suspended like a massive apron in front of the kidney. It gives rise to the suggestion that the liver has been partly molten and that a portion of the softened mass on its heavier side had slid down until arrested by some process of solidification. To this partial or local ptosis of the liver have been applied the terms "floating lobe," "appendicular" or "linguiform lobe," and "Reidel's lobe." The condition is often associated with some sinking down of the whole organ or some tilting down (*mouvement de bascule*) of the right portion of it.

It may here be said that the first clinical description of ptosis of the liver appears to have been given by Cantani[2] in 1865. He uses the term "*il fegato ambulante*." The literature of the subject has since then become very copious and one writer alone (Glénard) has collected 80 reported cases of this particular trouble.[3]

It will be desirable to deal first with ptosis of the entire liver and then with the peculiar deformity known as the floating lobe.

MEANS BY WHICH THE LIVER IS SUSPENDED.

Without going into anatomical detail it is well to take a brief note of the position of the liver and of the means whereby it is retained in place.

The upper limit of hepatic dulness is represented in the mammary line by the fifth rib, in the mid-axillary line by the seventh rib, in the scapular line by the ninth rib, and posteriorly by the eleventh rib. The dulness along this line of limitation is not absolute. Absolute dulness will be represented in the mammary line during quiet breathing by the sixth rib; on forced inspiration this line of dulness descends to the seventh rib. The lower limit of dulness corresponds in the mammary line about with the costal margin, in the axillary line to the tenth interspace, and in the scapular line to the twelfth rib. On deep inspiration the lower margin of the liver on the right side appears to descend from an inch to an inch and a half.

The means by which the liver is supported are the following. 1. By the ligaments of the organ. The disposition of these need not be described, but considering that the average weight of the liver is between 50 and 60 ounces one is struck with the fact that these structures appear feeble and somewhat inadequate for their work. 2. By intra-abdominal tension as represented by the resistance of the anterior abdominal wall on the one hand and the gastro-intestinal mass on the other. This mass tends to force up the under surface of the liver and to prevent its tilting either in an antero-posterior or lateral direction. When the viscera are removed and the body is erect there is a tendency for the inferior or anterior border of the liver to nod forwards and for the heavy right lobe to tilt downwards. The important part that a well-developed and muscular abdominal wall plays in the support of the liver can be appreciated when it is compared with the relaxed, flabby, and pendulous parietes met with in the "wallet belly" or *ventre en besace*. 3. Possibly by intra-hepatic tension. Glénard and Straud[4] injected water into the veins of the liver in a cadaver. The increase thus produced in the volume of the organ showed itself by the straightening of the under concave surface, which became even convex, by the projection forwards and upwards towards the anterior abdominal parietes of the anterior edge of the liver, and by the lowering of this margin below the costal margin while the upper line of hepatic dulness became raised. It has been noted in support of the view suggested by these experiments that in cases of chronic congestion of the liver even with flaccid abdominal walls the anterior edge of the gland will often keep in place well. 4. Above all by the vena cava. There is no doubt but that this great vessel, with its firm hold of the liver on the one hand and its close connexion with the aorta and vertebral column on the other, represents the most substantial means whereby the liver is suspended. This fact has been fully demonstrated by Faure and Landau.[5] Faure, indeed, says that the liver is appended to the vena cava as the heart is to the great vessels, and that the pedicle of the liver is the vena cava. The hold that this great vein has upon the organ is very evident in removing the liver in an ordinary post-mortem examination.

THE MANNER OF THE DOWNFALL.

The ptosis of the liver may be of any degree. In the slightest forms the anterior border on the right side will project an inch or two inches below the costal margin. In the most extreme type the whole gland appears, on superficial examination, to have dropped from its place and to be loose in the abdominal cavity. The liver, however, even in the extreme cases, is not so free from its connexions as may at first seem. If the organ moves from its place it can move only in one direction—viz., downwards. It does not, however, sink bodily downwards with the inclination of its surfaces unchanged. The attachments of the liver become relaxed, but they do not all yield to the same degree. The most potent means of attachment of the gland is, as already stated, the vena cava. It thus happens that in ptosis of the liver the posterior surface or border of the organ moves the least. The movement of the liver in its downfall can be best appreciated by imagining it to be suspended from the spine by its somewhat narrow posterior surface at the site of the fossa for the vena cava. The anterior part of the liver nods, as it were, forwards. The sharp anterior border becomes lower and lower, the upper and convex surface becomes more

[1] Prepared for delivery at the London Hospital during the last winter session.

[2] Annali Universali di Medicina, Milano, 1865, p. 373.

[3] Les Ptoses Viscérales, Paris, 1893, p. 635. Among other monographs of importance may be mentioned those of Faure, L'Appareil Suspenseur du Foie, Thèse de Paris, 1892; by Landau, Die Wanderleber, Berlin, 1885; and by Terrier and Auvray, Le Foie Mobile, Revue de Chirurgie, 1897, p. 621.

[4] Lyon Médicale, June and July, 1896.

[5] In the monographs referred to in Note 3.

and more anterior, and the under surface looks more and more backwards. The liver, indeed, has been rotated forwards (*mouvement de bascule*), about a transverse axis passing through the posterior part of the gland.

Moreover, if the vena cava be regarded as a pedicle of the liver or as a pivot for rotation it will be noticed that the heavier part of the organ lies to the right of the fossa for the vein. Thus it happens that the liver makes a *mouvement de bascule* about an antero-posterior axis whereby the right lobe descends very markedly and the left lobe remains more or less in place. Thus it comes that it is the right end of the great lobe which first shows itself in ptosis of the organ and which represents the maximum degree of the prolapse. As a result of this tilting, or see-saw movement, to the right the whole liver becomes oblique, the line of obliquity being from above downwards and outwards. This is especially shown by the position of the anterior or inferior border.

THE DEFORMITY OF THE LIVER.

There is, however, another element in the condition besides a mere alteration in place. The prolapsed liver invariably becomes deformed. So marked is this that there are some writers who consider that the deformity is antecedent to the ptosis.[6] The liver becomes more flattened out. The anterior or inferior border of the right side seems to be drawn downwards and, with the gland adjacent to it, much thinned. Indeed, the flattening of the right lobe appears to be due to the advance towards one another of the anterior and inferior surfaces while at the same time the inferior surface comes more nearly in the same plane as the posterior. The condition may be expressed in another way by saying that the anterior surface of the liver is elongated at the expense of the superior surface and the inferior surface at the expense of the posterior. The posterior surface of the liver becomes much less thick and the anterior border, which presents itself so readily for examination, becomes elongated downwards, thinned, and often a little turned back.

In a marked case of ptosis the liver appears as a freely moveable tumour in the right side of the abdomen. The lower part of this tumour may pass deeply into the right iliac fossa or may even reach to within two or three fingers'-breadths of the os pubis. So much more of the upper and convex surface is exposed by the prolapse that on first examining the mass there is apt to be the impression that the whole of the dome of the gland can be felt. As a matter of fact the liver is not so low down that the upper surface can be surmounted by the examining hand. Faure,[7] however, mentions an extreme case in which the highest part of the convex surface of the liver was nearly as low as the margins of the ribs. An account of the tumour as it appears clinically will be given subsequently.

In many examples of ptosis of the liver a nearly transverse groove is found across the anterior surface of the elongated part of the right lobe. The peritoneum along this groove seems to have undergone a fibrous transformation and the change has been described by some as due to "transverse hepatitis." The formation of the groove has been commonly ascribed to the pressure of the costal margin against the prolapsed liver, the pressure being itself the result of tight corsets. The groove may be deep and may form a real isolating constriction. Livers so deformed have received the names of the "constricted liver" "*le foie cordé*," "*schnürleber*," and the like. The portion of the right lobe below the constriction may become almost separated from the main mass of the gland. An exaggerated form of this latter condition has received the name of "*la foie en gourde de pèlerin*" (the pilgrim's bottle liver). It will be seen later how close a relation these deformities (which all concern the outer and lower part of the right lobe) have to the "floating lobe."

THE CAUSES OF THE PROLAPSE.

Of the etiology of this affection little that is precise is known, and opportunities for post-mortem examination appear to have been few. No less than 80 recorded cases of ptosis of the liver have been collected by Glénard, including six cases of the "floating lobe." The trouble is infinitely more common in women. Of the 80 cases 73 occurred in females and only seven in men. It is an affection also of late middle life and is mostly met with between the ages of 35 years and 60 years. Among the female patients a history of multiple pregnancies forms a very noticeable feature. The trouble would appear to be largely the outcome of what may be termed a general relaxation of the tissues of the abdomen. There is frequent mention in the histories of these patients of feeble muscular development, of indifferent health, of attenuated abdominal walls, of ventral and other herniæ, of a flabby and pendulous abdomen, of prolapse of the whole mass of the intestines, of moveable kidney, and of displacements of the uterus. In quite a large number of the cases there is a history of antecedent abdominal disease, although not necessarily of the liver. There is no evidence to show that the trouble is due to any congenital abnormality of the hepatic ligaments. With regard to the seven cases in men in three cases the liver appears to have been free from disease, but in the remaining cases there is evidence of advanced hepatic trouble (cirrhosis, hypertrophy from malaria, and enlargement with ascites in connexion with heart disease).

The question of tight-lacing as a possible cause of ptosis of the liver in women has been very exhaustively discussed by many authors and the balance of evidence tends to show that that barbaric habit takes no part in this particular deformity. The occasional longitudinal furrows upon the convex surface of the gland which have been ascribed to tight-lacing have been shown by Turner to be almost as common in males as in females and to be due probably to congenital causes. Tight-lacing may no doubt alter the shape of the liver by compression and may lead to an extension downwards and an attenuation of the outer and inferior part of the right lobe. When this part of the organ has passed below the costal margin then it is probable that the transverse groove, which has been above described as of common occurrence, may be produced by an undue constriction of the waist. There is no gainsaying the fact that the maximum degree of constriction produced by the corset falls *below* the mass of the liver.

With regard to the state of the gland itself in ptosis of the liver an examination of the 80 cases above alluded to gives the following result. In 50 of these cases the liver appears to have been sound, or at least free from apparent disease. It is true that in some few of these 50 cases there is a history of long antecedent jaundice and of attacks of "colic." In the remaining 30 cases the account is incomplete in four cases and the other 26 examples present instances of liver disease, the most frequent troubles being gall-stones, cirrhosis, and hypertrophy. There is one case of cancer of the liver and one of hydatid cyst.

THE SYMPTOMS OF PTOSIS OF THE LIVER.

The symptoms presented by a typical case are the following. In the right side of the abdomen about the level of the umbilicus is a large rounded moveable tumour which will be visible under the parietes. On the left it will extend to the median line or beyond. Below it may reach well into the right iliac fossa and come within two or three fingers'-breadths of the os pubis. The mass extends above under the costal margin, and although a good deal of its upper surface can be felt the hand cannot be passed entirely above it. It is lost, indeed, beyond the costal margin. The tumour is solid, has about the consistence of the gravid uterus, and is very commonly described as of the size of a child's head. The body of the tumour presents a smooth convex surface and a generally rounded outline. Its inferior border is directed obliquely from above downwards and outwards and is thin and sharply defined. Along this border can be usually felt a characteristic notch—the notch at the site of the round ligament. The mass moves as if about a point of attachment placed just below the diaphragm. It can be reduced into the hepatic region. Its most free movement is upwards and downwards, but it also has a considerable degree of lateral mobility. The lower border can be lifted up. The tumour can not only be moved by manipulation, but it moves with changes in position, being most dependent when the patient is erect and least prominent when recumbent. It falls towards the left when the patient lies upon the left side. It descends on inspiration. The more complete the degree of ptosis the less marked is the descent on inspiration. The right part of the tumour appears to be more moveable than the left. The mass is dull on percussion. The hepatic area of dulness is, on the other hand, wanting or is depressed according to the degree of the prolapse. There is commonly a relaxed condition of the abdominal wall.

[6] For example, Hertz: Abnormitaten in der Lage und Form der Bauchorgane, Berlin, 1894.

[7] Traité de Chirurgie, par Dentu et Delbet, vol. viii., p. 249, Paris, 1899.

The prolapsed liver has been mistaken for an ovarian cyst, for a cyst or tumour of the mesentery, for a new growth in the omentum, for hydatid cyst, and most commonly for an enlarged and moveable kidney. Wickham Legg,[a] on the other hand, records a case which was diagnosed to be one of ptosis of the whole liver and which proved on post-mortem examination to be a tumour of the kidney. The patient was a man, 36 years of age, who died from lung disease. The tumour was in the umbilical region and measured 15 inches transversely. The hepatic area was resonant.

As already stated, the trouble may be associated with a moveable kidney. So far as symptoms are concerned there may be none and the patient may be free from any abdominal trouble. In other instances vague pains are complained of in the abdomen which radiate to the back, the loins, and the shoulders. There is a sense of abiding discomfort in the abdomen, of a "dragging from the back," and of a sinking down of the viscera generally. These troubles are increased by movement, by exercise, and even by the erect position. The patient is most comfortable when lying down. In not a few of the cases there has been complaint of dyspepsia, of dilated stomach, of nausea and vomiting, of flatulence, and of constipation. In certain instances cramps and colic have been conspicuous symptoms. In many of the recorded cases there are definite nervous disturbances—palpitation, vertigo, exhaustion, headaches, anorexia, conditions of irritability and depression, and symptoms which are usually ascribed to hysteria or melancholia. Faure would add to these temporary jaundice due to flexion or compression of the bile-ducts, ascites due to tension or compression of the portal vein, and œdema of the lower limbs consequent upon pressure on the vena cava. It is a question whether this series of symptoms could properly be ascribed to simple ptosis of a normal liver.

In isolated examples the tumour has been described as in the middle of the abdomen. The reduction—which is usually quite painless—has been attended with distress, nausea, and even vomiting. In some 14 cases out of the 80 cases the tumour was irreducible and in three cases reduction was incomplete. My impression is that imperfect reducibility is more common than these figures would appear to show. In four instances two notches were noticed in the lower border of the liver. In a case or so the gall-bladder and the round ligament have been identified through the parietes. In a few isolated examples the liver has been described as "tender."

I have met with two examples of complete ptosis of the liver. One was in the person of a woman, aged 72 years, whom I saw in consultation with Dr. Stanley Smith. She was unmarried and although by no means strong she could be described as enjoying fair health. She had a long, narrow thorax, of a type which I have described in "Allbutt's System of Medicine."[b] The abdominal aperture of the thorax appeared to be constricted and the costal margins below the xiphoid cartilage were for a long way parallel to one another and were separated by a quite narrow interval. There was no history of tight-lacing. The liver was entirely prolapsed and formed a very prominent tumour when the patient was erect. Beyond a little occasional dyspepsia she had no abdominal symptoms of any kind. The tumour was entirely reducible and quite painless. The patient was thin and the lower part of the abdomen was pendulous.

The second case was in a married woman, about 50 years of age, who came to see me at the London Hospital. She had had an ovariotomy performed some years previously. There was a ventral hernia at the scar and the whole abdominal wall was quite remarkably lax and pendulous. The patient was disposed to corpulence and all her tissues were soft and flabby. The liver was completely prolapsed and had been mistaken for an abdominal tumour. The patient was quite an invalid and could walk but little. She was a neurotic wreck and complained of an infinite variety of indefinite abdominal symptoms. There appeared to be a prolapse of the whole mass of the intestines and both kidneys could be moved out of the loins. No treatment was suggested in either of these cases beyond the wearing of a supporting belt.

EXAMINATION OF THE LIVER.

In cases of hepatoptosis of marked degree the examination of the tumour is attended with no difficulty. The patient should be examined while standing erect as well as when recumbent. Digital exploration should not be considered to be complete until it has been applied when the patient is lying upon the left side and also when in the crawling position, on the hands and knees. In the latter attitude the abdominal wall is well relaxed and the parts are very favourably disposed for palpation.

In slight degrees of ptosis of the liver a satisfactory examination is not quite so easy. Medical text-books point out fully what errors may occur in the examination of the liver by percussion, what conditions may make the organ appear too small, and what conditions may lead to the erroneous impression that it is too large. It is needless, also, to insist that the definition of the lower margin of the liver by palpation is not always a matter easy to determine. In all grades of ptosis of the liver a precise examination of the inferior border of the gland is of the utmost importance and it will often be found of advantage to supplement the ordinary methods of palpation by that described by Glénard under the title of "*le procédé du pouce.*"

FIG. 1.

The examination of the liver by the "procédé du pouce." Steps 1 and 2. (Glénard.)

This method of palpating the liver is conducted in the following manner. The inferior part of the gland—the presenting part—is examined solely by the pulp of the left thumb. The patient lies upon the back with the knees extended and the shoulders a little raised. The surgeon sits on the right side of the couch facing the patient.

Step 1.—He supports the right loin with his left hand. The four fingers of this hand are applied to the lumbar region, so that the middle finger is just below the posterior costal border and has its tip about the costo-vertebral angle. The loin is pushed forwards. The left thumb is free and in abduction. (See Fig. 1.)

Step 2.—The abdomen in the hypogastric and right iliac regions is depressed by the right hand laid flat upon the surface. The object is to push up under the liver the subjacent mass of intestines. The fingers are placed together and their tips are directed obliquely outwards and downwards towards the right groin which they just reach. The palm of the hand is applied about the median line a little below the navel. The hand is then made to describe a circular movement so that the fingers point upwards and outwards, the rotation being around the thenar and hypothenar eminences. Very firm pressure is exercised by the hand so placed. (See Figs. 1 and 2.)

Step 3.—The pulp of the left thumb is made to depress the anterior abdominal wall in the flank below the presumed site of the lower edge of the liver. The pulp of the thumb looks backwards and is at a variable distance from the tips of the right fingers but a little below the upper part of the furrow of depression caused by the right hand. (See Fig. 2.) The left thumb is pressed deep below the liver edge. It is to be remembered that this edge runs obliquely and in some

[a] St. Bartholomew's Hospital Reports, 1877.
[b] Article, "Enteroptosis," vol. iii., p. 889.

cases—e.g., the floating lobe—may be nearly parallel with the median line. The hands are kept in place and the patient is told to take a deep inspiration. During this inspiration the left thumb is made to slide from below upwards and outwards and from behind forwards. The edge of the liver should now slip past the thumb. The position of the left thumb, and if necessary of the right hand, must be shifted until the hepatic margin is discovered. It can be felt even when it lies above the costal margin.

FIG. 2.

The examination of the liver by the "procédé du po ce." Step 3. (Glénard.)

During repeated acts of inspiration the lower border of the organ can be well examined. The left thumb is so deeply placed that the liver margin when it presents itself will come in front of that digit.

The purpose of this method of examination is simple. The loin is elevated by the left hand so that the liver may be pushed forwards and its lower margin brought nearer to the surface. By means of the right hand the intestinal mass on the right side of the abdomen is forced under the inferior surface of the liver, with the effect that the lower edge of the gland is tilted towards the anterior parietes and so made more accessible to examination. The act of inspiration forces the entire organ downwards and not only brings it well into the area of manipulation, but by imparting movement to it makes the sharp lower margin more easily recognisable.

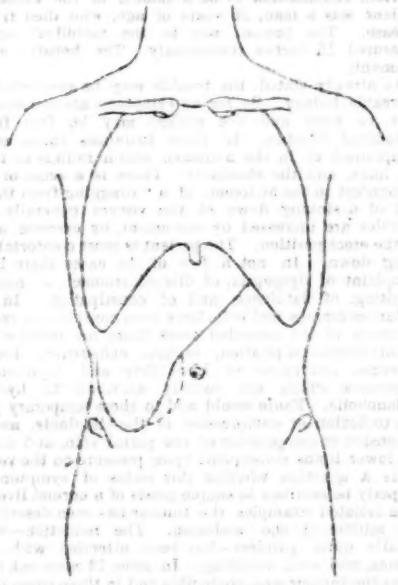
It will be noticed that the left thumb—which Glénard calls the third hand—approaches the border of the liver from behind forwards and from below upwards. It is during expiration that the thumb takes up its position well in the depths of the hypochondrium, below and behind (i.e., deeper than) the track which will be taken by the edge of the liver when it descends.

THE FLOATING LOBE.

I have already referred to this curious deformation of the liver. It takes the form of a tongue-shaped process which projects downwards from the right lobe of the liver. It is most usually derived from the right front part of the right lobe, but it may take its origin from the quadrate lobe to the left of the gall-bladder. The lower end of the "linguiform lobe" may easily reach the level of the iliac crest or extend into the iliac fossa (Fig. 3). A form of this liver appendage was figured by Cruveilhier in his "Anatomie Pathologique," published in 1842. The fullest account of the condition was, however, given by Riedel[10] in 1888. His monograph is illustrated by eight diagrams showing various phases of the deformity. In recognition of his work the lobe—called by him the "tongue-shaped process"—is commonly referred to as "Riedel's lobe."

The linguiform lobe is very commonly associated with a distended gall-bladder containing gall-stones. Such an association is shown in Cruveilhier's plate. Riedel assumes that the gall-bladder as it enlarges draws a tongue of liver with it. This tongue covers the gall-bladder wholly or

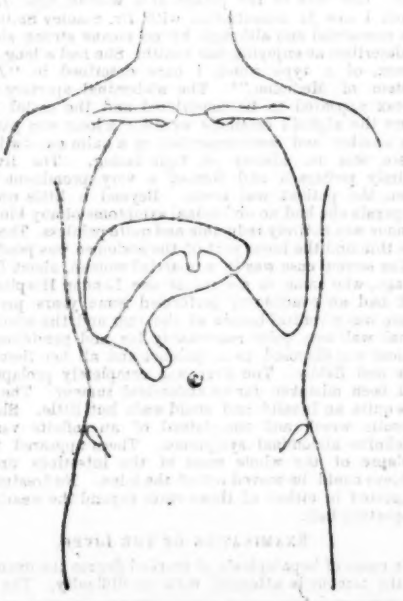
FIG. 3.



The floating lobe. (One of Riedel's cases.) The dotted line shows the gall-bladder.

partially. (See Fig. 4.) It has, moreover, been shown by Riedel and by Terrier that after cholecystotomy in such cases the floating lobe slowly retreats and in time vanishes. Probably all examples of a Riedel's lobe connected with the

FIG. 4.



The floating lobe. (Hellier's case.) Beneath the lobe is a distended gall-bladder.

[10] Berliner Klinische Wochenschrift, 1888, No. 29 and No. 30.

lobus quadratus are dependent upon gall-stones. In many cases, however, in which the appendage arises from the right front of the right lobe the gall-bladder is found to be quite normal.

Some fibrous transformation is often to be noticed in these lobes, especially when they arise from the quadrate lobe or closely cover a distended gall-bladder. The lobe may be attached to the liver by a pedicle which may be quite thin. The appendix varies in size from a mere tongue-shaped slip of liver tissue to a mass measuring 20 centimetres by 10 centimetres as in a case reported by Pichevin.

The *clinical manifestations* of Riedel's lobe are of interest since in all the reported cases, with very few exceptions, an error in diagnosis has been made. A tumour is discovered in the upper part of the right side of the abdomen or in the right flank. This tumour may reach the median line on the one hand or may extend into the iliac fossa on the other. In a case of Langenbuch's in which the lobe arose to the left of the gall-bladder the tumour was exactly in the median line and extended from the xiphoid cartilage nearly to the umbilicus. The tumour is variously described as of the size of a kidney, as of the size of one or even of two fists, or as being four finger-breadths across. Its long axis is vertical and in an instance or so the tumour has been visible. It is solid and elastic and its surface is smooth. Its lower end, when in evidence, is usually very well defined and is often compared to the lower end of the kidney. In many cases it can be grasped between the fingers and thumb. The tumour moves on respiration, but not always very markedly. Its mobility is very conspicuous. It is capable in most cases of being pushed back or reduced towards the kidney. It never seems, however, to quite reach the renal hollow. Pressure on the loin from behind may make the lobe more prominent, especially when a moveable kidney exists at the same time. The tumour can also be, as a rule, displaced laterally and be made to reach the median line or to pass to the left of that line. In a case reported by Dr. Hellier[11] the mass could not only be pushed to the left side, but when the patient lay upon the left side the tumour extended to a point nearly three inches to the left of the navel (Fig. 4). More than one writer has described the mass as slipping away under the fingers but as being never reduced. The term "the floating lobe" is, therefore, well merited. In a few examples the mobility has been little marked or absent, and I think in all these instances adhesions existed. The tumour is repeatedly stated to be tender on manipulation. The upper limit of the tumour is indefinite. It is lost under the ribs or is felt to commence just below the costal margin and at least one writer speaks of the abdomen as being free between the tumour and the ribs. Among the recorded cases it is repeatedly stated that no connexion could be established between the tumour and the liver. The hepatic area of dulness is generally normal and only occasionally is it lower than usual. The more solid examples of Riedel's lobe are dull on percussion but the slenderer forms of this appendage are resonant all over. Such resonance depends upon the existence of intestine beneath the thin lobe and greatly adds to the difficulty in diagnosis.

It will be no matter of surprise that up to the present time the linguiform lobe has been seldom recognised during life or before operation. For example, Glénard has collected six recorded examples, in five of which laparotomy was performed and in one of which a necropsy was made. In no instance was the true condition recognised. In three cases the diagnosis of moveable kidney was made, in one no diagnosis was attempted, and the remaining two cases were believed to be examples respectively of a hydatid cyst and a new growth. In other instances the diagnosis of tumour of the omentum, of abscess, and of distended gall-bladder has been made. By far the commonest error, however, has been the mistaking of Riedel's lobe for a moveable kidney. I have met with four examples of this curious deformity, of which three cases were in the London Hospital and one case was in private practice. The patients were in each instance middle-aged women. In one case a moveable kidney was suspected which I was asked to suture. Feeling a little uncertain about the tumour I made an incision in the semilunar line and found a Riedel's lobe covering a gall-bladder containing stones. The kidney was very moveable. In a second case a linguiform lobe was suspected during an examination under ether. A distended gall-bladder containing gall-stones was found beneath the appendage. In a third case there were symptoms of sub-hepatic inflammation of a chronic type. A tender swelling was discovered which was assumed to be wholly inflammatory. It proved to be an adherent Riedel's lobe. The gall-bladder was not involved. In the last case there had been relapsing perityphlitis and I was about to remove the appendix. Above the still tender appendix was a vague swelling which appeared elastic and which strongly suggested a large chronic abscess between the right iliac fossa and the liver. As it was for the most part resonant it was assumed to contain gas. Unfortunately for this diagnosis there was neither tenderness over the mass nor fever. The incision made over the appendix area exposed the lower end of a Riedel's lobe which was adherent. The gall-bladder was not involved. The diseased appendix was removed.

In many of the reported cases the floating lobe has been attended with subjective symptoms, such as pain, backache, nausea, constipation, dragging sensations, digestive disturbances, and the like. Some of the symptoms, and especially those attended with attacks of colic and jaundice, have been due to gall-stones. In other examples the troubles must be placed in the same category with those which are often associated with moveable kidney.

TREATMENT.

The medical management of ptosis of the liver calls for little comment and consists merely in the treatment of symptoms.

Dyspepsia is relieved by dieting and by drugs, constipation is attended to, a certain amount of rest is insisted upon, and such movements as cause discomfort are discontinued. Prominent among the measures which have been employed in ptosis of the liver are such methods of treatment for the relief of neurasthenia as happen to be in fashion at the time. Some writers have advised galvanism, probably because galvanism, as a therapeutic measure, has long been considered appropriate to obscure or hopeless disorders. It is difficult, however, to understand how any form of the electric current could cause a wandering liver to return tamely to its place under the ribs. Well-made belts are no doubt of very considerable service in the treatment of ptosis of the entire gland. Their use is much to be commended. Dr. Graham[12] has given an account of cases relieved by suitable supports.

The treatment by operation may be considered as it has been applied (1) to the floating lobe and (2) to ptosis of the whole gland.

In the operative treatment of the floating lobe three measures have been carried out: (1) the lobe has been excised; (2) the lobe has been sutured to the anterior abdominal wall; and (3) the distended gall-bladder, with which the condition is often associated, has been treated by cholecystotomy. Resection of the floating lobe has been carried out by Langenbuch[13] and Bastianelli[14] and cases of the suturing of this lobe to the parietes are reported by Billroth,[15] Tscherning,[16] and Langenbuch.[17] In all these cases the patients were females; in all the abnormal lobe was encountered unexpectedly, and in all a cure followed. From one to four sutures were used to secure the lobe. The instances of cholecystotomy performed in cases in which a floating lobe existed are numerous.

The operative treatment of ptosis of the whole organ has consisted in the fixing of the organ in place by means of various schemes of suturing. To these measures the name of "hepatopexy" has been given. The first operation of this kind appears to have been performed by Gérard Marchant[18] in 1891. He fixed the anterior border of the liver to the costal margin by four silk sutures. Langenbuch[19] employed eight silk sutures in the same way. Richelot[20] used catgut sutures. In June, 1895,[21] I secured a prolapsed liver in place by three silk sutures, the median of which took hold of the round ligament. The stitches were passed through the fibrous structures by the side of the xiphoid cartilage. Lanelongue[22] bared the convex surface of the liver over a

[11] Brit. Med. Jour., vol. i., 1895, p. 977.

[12] New York Medical Review, 1896.
[13] Medicinisch-chirurgisches Centralblatt, Vienna, 1888, p. 231.
[14] Il Policlinico, 1895, p. 151.
[15] Wiener Medicinische Wochenschrift, 1886, No. 14.
[16] Centralblatt für Chirurgie, 1888, p. 428.
[17] Deutsche Medicinische Wochenschrift, 1888, No. 29.
[18] Académie de Médecine, August 11th, 1891.
[19] Deutsche Medicinische Wochenschrift, 1891, p. 1241.
[20] Gazette Hebdomadaire de Médecine et de Chirurgie, 1893, p. 342.
[21] Brit. Med. Jour., Jan. 4th, 1896.
[22] Lanelongue and Faguet: Congrès de Bordeaux, 1895.

space measuring six centimetres by three centimetres and then fixed the organ to the anterior abdominal wall by three catgut sutures. Péan[25] establishes below the liver a "*éloisonnement peritoneal horizontal.*" The abdomen is opened by a transverse incision and by means of silk and catgut sutures the peritoneum of the anterior abdominal wall is united to that of the postero-lateral wall below the replaced liver. Legueu[26] suspends the liver by a double thread which goes entirely through the substance of the gland. Francke[27] fixed the liver to the anterior abdominal wall by eight or nine sutures. No sutures are placed in the region of the gall-bladder. In the gap thus left iodoform gauze is introduced between the liver and the diaphragm and left in place for eight days. Substantial adhesions are said to be produced by this method. Depage[28] not only fixes the liver by sutures, but he dissects up extensive skin flaps from the front of the abdomen and attempts to reconstruct the abdominal wall. Terrier and Auvray[27] give abstracts of 15 examples of these operations with 11 cures, two deaths, and two uncertain results. So far as the surgical management of Riedel's lobe is concerned I think that the indications for operation do not go beyond the treatment of the distended gall-bladder with which this deformity is often associated. Cholecystotomy has been followed by the complete cure of the patient and the disappearance of the floating lobe.

I cannot see that there is any justification for the suturing of the lobe to the abdominal parietes, much less for the wholesale excision of the whole of the protruding part of the gland. It has never been shown that the mere existence of this lobe has *per se* caused any inconvenience or that its mobility has been a source of distress. Any nervous symptoms which co-exist are of a kind which would vanish after a simple exploratory incision and that circumstance probably explains the "cures" which have followed these uncouth measures.

With regard to the cases of complete ptosis much may be done by carefully applied and substantial support. Such support will probably need to be represented by something more elaborate than a belt. It may be desirable to hold up the relaxed abdominal wall by a thin metal plate taking its bearing from a pelvic band. The cases calling for operation are very few indeed. A ponderous organ like the liver cannot be efficiently supported by a few isolated sutures of silk or catgut. The operation can be needed only in extreme examples and in these a large nervous element will probably have to be reckoned with. Of the measures advised the most sound would appear to be that carried out by Francke. The sutures should be of silk and be passed well into the gland. The incision should be in the right semilunar line when possible. The rest in bed should be for from four to six weeks.

[25] Péan: Congrès de Chirurgie, Paris, October, 1896.
[26] Traité de Chirurgie, par Dentu et Delbet, vol. viii., p. 256.
[27] Centralblatt für Chirurgie, 1896, p. 776.
[28] De l'Intervention Chirurgique dans la Splanchnoptose, Brussels, 1895.
[27] Revue de Chirurgie, 1897, p. 746.

LUNACY IN THE WEST OF ENGLAND.—The Cornwall County Council was recently informed that the asylum at Bodmin will have practically to be rebuilt to accommodate the increased number of patients. It has been notified to the Dorset County Council that the asylum in that county is also fast filling up and must be enlarged. The Plymouth Borough Council has recently decided upon an addition to the asylum at Blackadon to meet the growing demand upon its accommodation.

ROYAL MINERAL WATER HOSPITAL, BATH.—The annual meeting of the supporters of this institution was held on May 1st under the presidency of Colonel Vaughton-Dymock. The report stated that 1251 in-patients had been admitted during 1899, the daily average number in the hospital was 152, and the average stay of each patient was 44¼ days. The financial statement showed that the expenditure amounted to £5879, which was higher than usual owing to considerable repairs and improvements having been made in the hospital; there was a favourable balance of £464 remaining. 20 beds have been placed at the disposal of the War Office authorities for the wounded soldiers, but up to the present only nine soldiers have been sent. Colonel Vaughton-Dymock was re-elected president.

The Milroy Lectures

ON

SUMMER DIARRHŒA,

WITH SPECIAL RELATION TO CAUSATION AND PREVENTION.

Delivered before the Royal College of Physicians of London on March 8th, 13th, and 15th, 1900,

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LECTURE I.

Delivered on March 8th, 1900.

INTRODUCTORY.

MR. PRESIDENT AND GENTLEMEN,—For many years the high mortality due to diarrhœa has attracted attention in the study of preventive medicine. In England and Wales the number of deaths from this cause alone was 30,077 in 1898 and 31 069 in 1899; it caused 5·4 per cent. as against 12·6, the total mortality of the principal zymotics in 1898, and 5·3 out of 12 per cent. in 1899. On the whole the death-rate from that cause has maintained a steady average between the years 1847 and 1897. This persistence shows that the disease has not tended to lessen either in frequency or in virulence under the improved methods of modern public health administration. At the same time our knowledge of acute specific diarrhœa in the form which will be discussed in these lectures has been greatly extended—thanks chiefly to the late Dr. Ballard, whose researches were embodied in the classical report on the subject presented to the Local Government Board in 1889. Indeed, it may be said that since then workers in the same direction have done little beyond amplifying his inquiries and conclusions.

SYNONYMS OF DIARRHŒA.

The name most frequently applied to the malady is "diarrhœa." Many other terms are in use as set forth in the subjoined list. There is in addition to what may be called "bacterial diarrhœa"—that is, an acute malady due to bacterial agencies—a certain margin of cases included under diarrhœa where that condition is simply an accidental complication of some other disorder, as tabes mesenterica, measles, or chronic nephritis. This source of error is of little importance to the statistician on account of its general occurrence in all parts of the kingdom, whereby it affects but slightly any comparison between different places or the same place in different years. The headings of the following groups of synonyms sufficiently indicate the principles that have led to their adoption.

A.—1. Diarrhœa. 2. Summer diarrhœa. 3. Epidemic diarrhœa. 4. Acute diarrhœa; zymotic diarrhœa.

B. *Terms designating severe cases resembling somewhat true cholera.*—5. Choleraic diarrhœa. 6. English cholera. 7. Cholera nostras. 8. Cholera infantum or infantile cholera. 9. Cholera.

C. *With presence of bloody stools or tenesmus.*—10. Dysentery. 11. Dysenteric diarrhœa.

D. *With recognition of local inflammatory condition.*—12. Enteritis. 13. Gastro-enteritis. 14. Gastritis. 15. Muco-enteritis. 16. Intestinal catarrh. 17. Enteric catarrh. 18. Gastro-intestinal catarrh. 19. Gastro-enteric catarrh.

E. *Diarrhœa coupled with some ill-defined cause of death.*—20. Diarrhœa and atrophy. 21. Diarrhœa and asthenia. 22. Diarrhœa and debility. 23. Diarrhœa and marasmus. 24. Diarrhœa and want of breast milk. 25. Diarrhœa and vomiting. 26. Diarrhœa and sickness. 27. Diarrhœa and convulsions. 28. Diarrhœa and teething. 29. Diarrhœa and old age. 30. Diarrhœa and senile decay.

The instructions of the Registrar-General, quoted by Dr. Newsholme,[1] in classifying diarrhœal deaths are as follows: "Diarrhœa.—Deaths from *intestinal* or enteric catarrh and from *gastro-intestinal* or *gastro-enteric catarrh* should be included under this heading. Diarrhœa should, however, be

[1] Public Health, December, 1899, p. 143.

counted as the cause of death *only when stated alone or when coupled with some ill-defined cause of death*, such as atrophy, debility, marasmus, convulsions, teething, old age, or senile decay." (Extract from Instructions to Registrars for making weekly returns of births and deaths.) It has been suggested by Dr. Newsholme that where fatal enteritis or gastro-enteritis in the opinion of the certifying practitioner has been due to the specific disease summer diarrhœa it should be distinguished by the prefix "epidemic" and included in the diarrhœa returns. That recommendation has been endorsed by a committee of the Royal College of Physicians of London. This important subject has been considered by a committee appointed on July 27th, 1899, by the Royal College of Physicians of London. The resulting report was presented on Jan. 25th, 1900. Its main conclusions were that a widespread objection exists on the part of medical practitioners to the employment of the term "diarrhœa" in certifying the cause of death. The term is generally held by the public to imply a mild disease, insufficient by itself to cause death. This fact explains the reluctance of the practitioner to employ it in the death certificate, since it may be conceived to imply a stigma upon his own capacity. "It is therefore desirable, if possible, to substitute for it some name equally accurate but conveying to the public the idea of a more serious affection; but we regard it as essential that the idea of specificity intended to be conveyed by the term 'epidemic' should be retained." In accordance with that view the committee recommended the College to authorise the use of the term "epidemic enteritis" (or, if preferred by the practitioner, "zymotic enteritis"), and at the same time to encourage the entire disuse in certificates of death of such synonyms as "gastro-enteritis," "muco-enteritis," or "gastric catarrh." It is to be hoped, therefore, that the step thus taken by the Royal College of Physicians of London will introduce an era of greater accuracy in the statistics not only of summer diarrhœa, but also of zymotic diseases generally.

CLASSIFICATION.

The question of classification, which is closely connected with that of synonym, has been ably summarised by Dr. Fotheringham of Toronto as follows[2]: "A clinical classification may first be attempted based upon the symptoms. Thus cases may be:—1. *Acute*. (*a*) Acute intestinal inflammation from the first, with little constitutional poisoning, thus corresponding to the adult type; (*b*) virulent toxæmia or even general infection with little evidence of intestinal lesion. Or—2. *Chronic*, in which (*a*) intestine shows severe and obstinate ulcerative inflammation; or (*b*) persistent malnutrition and loss of assimilative power with little or no inflammatory process. Again, while the primary trouble in all cases is the gastro-enteric infection, in some cases the outstanding symptoms soon cease to be those due to lesion of the alimentary canal, and come to be those due to lesion in other organs, especially the lungs and the kidneys."

Blackader of Montreal in a helpful and exhaustive article[3] adopts Booker's bacteriological classification, with a little modification, as follows: "1. Dyspeptic non-inflammatory diarrhœas; functional, due to ingestion of irritants, usually food, and most frequently milk. 2. Inflammatory diarrhœas, in which the symptoms of a toxic systemic infection are predominant. 3. Inflammatory diarrhœas, in which in addition to the systemic infection the local inflammatory conditions produce marked symptoms. 4 Chronic diarrhœas, in which the acute inflammatory symptoms have more or less subsided, but in which the stools remain abnormal both in character and in frequency and nutrition is apt to be much impaired." This latter condition may be regarded as a useful addition of Blackader's to the more purely bacteriological classification of Booker, which is shortly as follows: "(1) Non-inflammatory dyspeptic diarrhœas; (2) streptococcic gastro-enteritis; (3) bacillary gastro-enteritis; (4) mixed cases. The latter class includes by far the larger number of cases seen in practice. Still another classification is based on anatomical considerations, and it becomes a duty to decide whether a case is one of enteritis, colitis, or entero-colitis, since radical differences exist in the treatment to be adopted in each case. For instance, neither opium nor irrigation of the bowel can be said to be so necessary in enteritis as in colitis with small, frequent, slimy, and blood-stained stools, tenesmus, and often prolapse of the rectal mucosa. Nor would bismuth be nearly so useful in colitis as in enteritis, with its large, watery, often foul-smelling dejections."

DEFINITION.

Summer diarrhœa is an acute specific disease, characterised by gastro-intestinal irritation and general sepsis. It is epidemic in the summer months, although sporadic cases occur at all periods of the year. It is doubtless of microbial origin, of a manifold and perhaps of a mixed nature. It is usually a disease of children, and is sometimes communicated from one person to another. Summer diarrhœa is an acute symptomatic disease, running a fairly definite course. An attack may set in without premonitory symptoms. In the majority of cases, however, the child is "out of sorts" for days or even weeks before the invasion, and shows signs of dulness, dizziness, slight looseness of the bowels, and feverishness. It usually begins with an incubation stage, followed by fever, vomiting, diarrhœa, and general sepsis. It is specific in so far as it is caused by micro-organisms or by their products; the causative organisms, however, may be of varied species, a fact which probably accounts for the many variations in the acuteness, severity, and duration of the resulting disorder. It is established by many observations, as in the classical instance of the Helmsley outbreak recorded by Dr. Bruce Low,[4] that the malady is communicable from the sick to the healthy.

CLINICAL FEATURES.

The clinical picture usually presented by summer diarrhœa is distinctive enough. After a more or less definite premonitory stage the little patient is seized with diarrhœa, vomiting, and convulsions. The temperature is usually high and often runs up to 105° F. or even to 107°. The child is restless, the breathing is embarrassed, the urine is scanty or suppressed, and a fugitive rash is sometimes present. After a few hours collapse sets in and the temperature falls to normal or subnormal—97° or 96°. In serious cases there are pallor of the surface, retraction of the abdomen, falling in of the fontanelle, slow and laboured breathing, feeble pulse, cold breath, apathy, and general prostration. After remaining in this state of collapse perhaps for several days the child dies, death often being preceded by a sudden rise of temperature. In less severe cases reaction occurs, and there is a secondary fever with morning fall and evening rise of temperature. Diarrhœa then ceases to be a chief symptom, but there is great irritability of the stomach and vomiting is excited by everything administered by the mouth.

The essential nature of the disease is a gastro-intestinal inflammation, running an acute course. The general septic condition is shown by the fever, the skin rash, the vomiting, prostration, nervous irritation, and by such frequent complications as bronchitis, broncho-pneumonia, and nephritis. The diarrhœa may be trifling in amount or of short duration, so Ballard thought—even in fatal cases. As a rule, however, it is the constant and prominent symptom. It has no specific character, although the stools are usually at first yellow, and later become watery, brown, and offensive. At times they are stained with blood and may cease for some time before death. Vomiting may occur without diarrhœa during the first day of the illness. Convulsions are most marked in the later stages, often when vomiting and diarrhœa have lessened, and together with coma may be due to uræmia from kidney complications. Loss of flesh is often rapid.

A full account of the disease may be found in any modern text-book of medicine. For our present inquiry it will be assumed that the epidemic disease is so well known and recognisable as to render a more detailed description unnecessary. Some points in our definition—namely, the summer incidence, the communication of the disease from one person to another, and the microbial origin—will be discussed elsewhere.

PATHOLOGICAL CHANGES.

The local changes in the intestine point to inflammatory processes of varying severity. They were ably summed up by Dr. Ballard ten years ago, and more recent authorities have done little to extend his observations. The following is a summary of the pathology of the disease given by Dr. Booker of Baltimore in 1897.[5] "With regard to the effect of

[2] Infant Feeding and Infantile Diarrhœa. (British Medical Association, Montreal, 1897. Canadian Practitioner, October, 1897, p. 358.)
[3] Sajous's Cyclopædia of Practical Medicine, vol. iv.
[4] Appendix ix., p. 127, Dr. Ballard's Supplement on Diarrhœa, Local Government Board Report for 1887.
[5] The Johns Hopkins Hospital Reports, vol. vi., 1897; The Summer Diarrhœa of Infants, W. D. Booker, M.D.

summer diarrhœa upon organs, broadly speaking the results appear to be due to the action of toxalbumins absorbed from the intestinal canal. At any rate, it seems difficult to establish any direct action of errant pathological organisms. Almost any organ of the body may be involved and in varying degree. The intestinal mucous lining may be involved slightly or throughout its greater extent, and in that way the amount of poisonous products absorbed may be largely determined. Among the organic disturbances commonly found in summer diarrhœa are lobular and lobar pneumonia, tubercular and parenchymatous inflammations of the kidney, fatty and other changes in the liver, hæmorrhages and other changes in the spleen. Multiple lesions occur in the gastro-intestinal tract, such as hæmorrhages, loss of surface epithelium, infiltration of the mucosa, ulcerations, enlargements of solitary and agminate glands, with foci of necrosis."

HAS INFANTILE DIARRHŒA INCREASED OR DECREASED IN RECENT YEARS?

The mortality from diarrhœa as shown in recent reports is unfortunately not comparable with that in earlier years. This fact is owing to the gradual introduction of the terms "gastro-enteritis," "muco-enteritis," and even "enteritis" alone, in certificates of death from the epidemic disease which used to be described as diarrhœa. Dr. Ballard speaks of the use of the three terms mentioned by persons desiring to signify thereby that they recognise in the illness an inflammatory condition of the digestive mucous tract.[6] Had he been writing now he would probably have deprecated the loose use of terms much more strongly than he did ten years ago. In his classical report he remarks: "It is obvious ..... that this malady, which we designate as diarrhœa, is not a mere dyspepsia nor a mere enteritis—although enteritis is one element in the disorder—but a *general disease* of specific character, to which a distinct and specific name other than 'diarrhœa' (the name of only one symptom of the disease) ought to be attached." Such a term is still wanted; the adoption of a title like "gastro-enteritis" simply shirks the difficulty. It is true that "diarrhœa" is the name of a single symptom; but, on the other hand, except when secondary to some definite disease—e.g., tabes mesenterica—it nearly always refers to summer diarrhœa of bacterial origin. Enteritis and its compounds, on the other hand, would apparently indicate a more local inflammation—as, for instance, the purging caused by bitter apple. It would be impossible, however, to imagine any diarrhœa uncomplicated by micro-organisms in the intestine. Again, large doses, say, of calomel will cause purging and if excessive would set up nephritis, but the enteritis in that case would be a local and the nephritis part of a general effect. In bacterial diarrhœa—meaning by that term diarrhœa due to the ingestion of irritant bacteria or bacterial products—the lesion is almost certainly local in the first place and later becomes generalised. With these points in view it is not easy to follow M. Bertillon in his classification, which takes diarrhœa boldly out of the class of general diseases and places it with enteritis among diseases of the digestive system. According to Dr. Ballard, diarrhœa has "just as much or as little right to be regarded primarily as a kidney disease as it has to be regarded primarily as an intestinal disease." If his view be the right one then M. Bertillon might almost as well have transferred the malady to urinary as to digestive diseases.

The practical points with which we are more directly concerned at this stage of the inquiry are, first, that an increasing number of medical men in England certify deaths due to "diarrhœa" as due to "enteritis" or some of its varieties; secondly, that up to the present time the Registrar-General has returned all varieties of enteritis under the heading "enteritis." It follows that the decrease under the heading of "diarrhœa" has been accompanied by an increase under "enteritis."

Table I. shows the death-rates in England and Wales during the 25 years, 1873–97, registered as due (1) to diarrhœa, (2) to enteritis, and (3) to diarrhœa and enteritis together. The fifth column shows the mean temperature at Greenwich of the third quarter of each year.

From a first glance at the diarrhœa column it would appear that the disease has been less prevalent in the later than in the earlier years. Taking the years in groups of five the average rate was—in 1873–77, 882 per 1,000,000; in 1878–82, 767 per 1,000,000; in 1883–87, 739 per 1,000,000; in 1888–92, 537 per 1,000,000; and in 1893–97, 713 per 1,000,000.

TABLE I.—*Death-rates per 1,000,000 living in England and Wales.*

←	Diarrhœa.	Enteritis.	Total.	Temperature of third quarter above (+) or below (−) average of 49 years.
1873	962	123	1085	+ 0·1° F.
1874	923	131	1054	+ 0·7
1875	1028	131	1159	+ 0·5
1876	917	115	1032	+ 1·6
1877	619	105	724	− 1·7
1878	1003	116	1119	+ 0·6
1879	452	96	548	− 2·1
1880	1171	118	1289	+ 1·2
1881	558	104	662	− 0·2
1882	653	113	766	− 2·1
1883	598	108	706	− 0·7
1884	978	120	1098	+ 2·5
1885	492	109	601	− 1·1
1886	899	143	1042	+ 1·0
1887	727	131	858	+ 0·8
1888	456	128	583	− 2·7
1889	648	160	808	− 1·3
1890	606	180	786	− 0·8
1891	469	178	647	− 0·9
1892	505	191	696	− 1·0
1893	954	290	1244	+ 1·7
1894	350	198	548	− 1·6
1895	874	349	1223	+ 2·1
1896	546	317	863	+ 0·2
1897	840	427	1267	+ 0·7

Looking at the temperature column it is seen that four out of the five years 1873–77 were warmer than the average, thus partly accounting for the high rate. 1878–82 included two warm and three cool years, and 1883–87 (with a somewhat lower rate) included three warm years. The years 1888–92 were all cool and the rate was the lowest of all the five-yearly periods. In 1893–97 there were four warm years and yet the "diarrhœa" rate was less than in any period except the five cool years, 1888–92. When, however, the figures for enteritis are taken into account the whole aspect is altered. From 1873 to 1888 the mortality from enteritis fluctuated, but within narrow limits. In 1889 an increase began and the figures generally rise and fall in rough proportion with those for diarrhœa. In 1896 and 1897 the deaths from enteritis were more than half as great as those from "diarrhœa." Possibly some of the cases of enteritis are really caused by a purely local inflammation due to causes other than bacterial; but there can be little doubt that the majority of them are due to bacterial "diarrhœa." The cases of non-bacterial local inflammation may reasonably be supposed to vary little from year to year. And in that case the total of the two columns, diarrhœa and enteritis, will fairly exhibit the actual variations of the disease, which was once intelligibly if inaccurately known as "diarrhœa." The average of these figures for the five periods of five years each are as follows. 1873–77, 1011 per 1,000,000; 1878–82, 877 per 1,000,000; 1883–87, 861 per 1,000,000; 1888–92, 704 per 1,000,000; and 1893–97, 1029 per 1,000,000. Thus, although the five cold years 1888–92 give the lowest average, the five years 1893–97 give the highest average of all. There is therefore no evidence of a decrease of diarrhœa mortality in England and Wales generally during recent years. This conclusion is supported by Dr. Newsholme,[7] who has drawn up in graphic

[6] Report cit. for 1887, p. 13.

[7] A Contribution to the Study of Epidemic Diarrhœa, Presidential Address delivered before the Association of Medical Officers of Health, 1899.

form the annual death-rate per 1,000,000 living in England and Wales between the years 1847 and 1896 from diarrhœa *plus* cholera and from enteritis. His table shows that enteritis and diarrhœa, taking the two together as representing diarrhœa, maintain a fairly steady average during the past 40 years. The general conclusion above stated is further confirmed by Table II.

TABLE II.—*Continuation of Table on page 12 of Dr. Ballard's Report, which ended at the Year 1857 (with Corrections of a few Figures from the Latest Reports of the Registrar-General), showing the Number of Deaths from "Diarrhœa and Dysentery" registered in England and Wales and in London, and the Annual Mortality per 1000 Persons living during the 50 Years 1838–87.*

Years.	England and Wales.		London.	
	Deaths.	Rates per 1000.	Deaths.	Rates per 1000.
1838	*17,185*	*0·65*	*3,144*	*0·56*
1839	*15,933*	*0·60*	*3,652*	*0·68*
1840	*26,412*	*0·98*	*5,903*	*0·99*
1841	*18,308*	*0·49*	*3,733*	*0·68*
1842	*24,745*	*0·90*	*5,996*	*0·99*
1843	*20,240*	*0·73*	*5,201*	*0·94*
1844	12,839	0·46	2,306	0·54
1845	18,434	0·65	2,692	0·65
1846	17,429	0·61	2,750	0·66
1847	13,653	0·47	2,435	0·58
1848	14,898	0·51	2,557	0·60
1849	28,370	0·95	3,427	0·80
1850	10,513	0·35	1,745	0·40
1851	26,552	0·87	3,614	0·83
1852	16,824	0·56	3,207	0·72
1853	26,099	0·84	4,146	0·93

The figures in italics remain unaltered from Dr. Ballard's report.

WHAT ZYMOTIC AILMENTS HAVE DIMINISHED IN ENGLAND AND WALES?

Generally speaking, the zymotic diseases that have either disappeared altogether or been reduced to a small incidence are plague, cholera, typhus fever, and small-pox, while enteric fever has considerably diminished of late years. A consideration of the causes that have led to those results is not without interest and affords useful hints in approaching the study of communicable diseases that have not diminished in incidence or virulence. The disappearance of plague from Great Britain is a fact of importance as indicating how the progress of a filth disease may be sometimes checked even by elementary advances in general sanitation. Typhus fever is an example of a disease practically driven out by a much higher general standard than that required to banish plague. The disappearance of cholera from our shores followed upon the provision of better water-supplies in our centres of population, due to the brilliant scientific demonstration by Snow of the part played by drinking-water in the spread of the disease. Small-pox has dwindled from a deadly scourge to the position of a comparatively rare disease mainly from two causes—(1) the discovery of special means of prevention—to wit, vaccination; and (2) general and special sanitary advances in the shape of better popular environment and better methods of dealing with infectious diseases.

In the diseases named it is encouraging to note that the improvement took place before we had any exact knowledge of the *causa causans* of the disease. We know now the specific bacteria of plague and cholera, but have hitherto failed to detect them in small-pox and typhus fever. It is clear, however, that a precise knowledge of specific pathogenic bacteria is not essential to the extirpation of a given zymotic malady. On the other hand, the increase of diphtheria in recent years proves that a close acquaintance not only with the organisms at the root of the disease but also with their antidote in the shape of diphtherial antitoxin does not necessarily lead to diminished incidence. In the following diseases the diminution has been slight or there has been an actual increase: scarlet fever, measles, whooping-cough, diarrhœa, and diphtheria.

If we compare the death-rate from communicable diseases either of London or of England and Wales we find the general results much the same. There is decrease, almost to vanishing point, in small-pox, typhus fever, and simple and continued fever, a marked decrease in enteric fever, and to a less extent in scarlet fever. Measles and whooping-cough persist to about the same extent, and the same may be said of diarrhœa if under that term we include enteritis. Diphtheria shows a great increase. For the purpose of comparison cholera, influenza, and plague need not be taken into consideration. They are happily not endemic in this country and may be looked upon as importations, although there can be little doubt that their failure to establish any real foothold is largely due to the causes that are diminishing the incidence of other communicable diseases. In considering the foregoing facts one is struck by the observation that two of the three persistent zymotic diseases—namely, measles and whooping-cough—are not included in the compulsory notification Acts. Of the third member of the persistent group, diphtheria, it is remarkable as being the only communicable disease that has actually increased under the improved sanitary administration of the past 30 years. It seems possible that in this disease, which is essentially one of childhood, we may trace its increase to a fresh condition affecting the juvenile population—namely, the introduction of the Board School system in 1870.

The lessening of small-pox may be attributed to vaccination and to modern notification and isolation measures; that of scarlet fever to notification and isolation, with all that those terms imply. The lessening of enteric fever may be ascribed to the improvement of drinking-water supplies, of sewage disposal systems, and of detection of sources of infected milk-supplies. It is interesting to ask here why diarrhœa, which has strong analogies with enteric fever, has not diminished in a similar ratio. Notification does not apply to diarrhœa, but there must be other causes at work to account for the difference. If diarrhœa were distributed by the same agencies as enteric fever, after making allowance for the preventive isolation and disinfection of enteric fever cases, one would still expect a reduction of diarrhœa from the general improvement of sanitary surroundings that may fairly be presumed to have lessened the incidence of the more specific fever. No such lessening of diarrhœa has taken place, however, so that in that malady we must look for some special conditions affecting the origin, the methods of distribution, and other essential factors.

INQUIRY INTO THE RELATION, IF ANY, BETWEEN THE LOCAL PREVALENCE OF DIARRHŒA AND OF ENTERIC FEVER.

The analogy between diarrhœa and enteric fever is somewhat striking. Both are filth diseases, both have a relation to soil, both have a marked seasonal curve, and both are often distributed by the agency of food. Although no very positive relationship can be traced between the two diseases, yet the inquiry is not devoid of interest. For the purpose of this comparison the Registrar-General's Supplementary Report for 1881–90 has been used. It has the advantage that the figures are hardly, if at all, disturbed by the "gastro-enteritis" fashion of recent years. For this purpose an excess of 10 per cent. or more over the average mortality of England and Wales is defined as indicating "prevalence." The death-rate from enteric fever in England and Wales in 1881–90 was 0·20 per 1000; a rate of 0·22 per 1000 or over therefore indicates "prevalence" of this disease. The death-rate from diarrhœa in England and Wales was 0·66 per 1000; a rate of 0·73 per 1000 or over therefore indicates "prevalence" of this disease. Taken in that way there were five counties in 1881–90 which showed prevalence of both enteric fever and diarrhœa, three counties which showed prevalence of enteric fever and not of diarrhœa, and four counties which showed prevalence of diarrhœa but not of enteric fever (see Table III.).

There are 12 out of 45 registration counties which show prevalence of one or both of the diseases—the remaining 33 counties, including all the southern part of the country except London, escape prevalence of either disease. It is true that one of these counties (Hampshire) has a small excess of enteric fever mortality. This excess is entirely due to special prevalence in a group of four districts—Havant, Portsea Island, Alverstoke, and Fareham—and one of these districts only (Portsea Island) shows at the same time a prevalence of diarrhœa.

Turning to the five counties in which both diseases were "prevalent" an attempt may be made to find to what extent

TABLE III.—*The "Prevalence" of Enteric Fever and Diarrhœa in 1881-90.*

Registration county.	Death-rate per 1000 from	
	Enteric fever.	Diarrhœa.
Nottinghamshire	0·27	0·86
Lancashire	0·27	0·98
West Riding of Yorkshire	0·22	0·75
East Riding of Yorkshire	0·24	0·88
Durham	0·27	0·82
"Prevalence" of Enteric Fever only.		
North Riding of Yorkshire	0·26	0·55
Northumberland	0·23	0·69
South Wales	0·26	0·41
"Prevalence" of Diarrhœa only.		
London	0·19	0·74
Staffordshire	0·20	0·84
Warwickshire	0·14	0·94
Leicestershire	0·19	1·10

the two prevalences affected the same parts of the counties. The results may be summarised somewhat as follows. In the five counties named there are 36 districts with excess of both diseases, 20 districts with excess of enteric fever only, nine with excess of diarrhœa only, and 30 with excess of neither disease. The large proportion of coincidences (both rates high or both low) certainly suggest some conditions as favourable to the spread of the two diseases. On the other hand, there are many districts where the prevalence of enteric fever is not accompanied by high mortality from diarrhœa. In these districts: (1) the conditions are favourable for the spread of enteric fever; (2) diarrhœa, although present, causes less mortality than it does in the country as a whole, and therefore the conditions cannot be altogether favourable for its spread; and (3) there is therefore apparently some local condition which favours enteric fever but not diarrhœa. This conclusion, drawn from the figures for counties which as a whole suffer from both diseases excessively, is seen more strikingly in the figures for the North Riding, Northumberland, and North Wales. These counties taken entire show prevalence of enteric fever but not of diarrhœa. We find in them a large number of districts with comparatively little mortality from either disease. It is easy to see that the local conditions may be unfavourable to both. But there are 16 districts in which prevalence, and sometimes marked prevalence, of enteric fever is accompanied by comparatively little diarrhœa mortality, and three districts only in which the accompanying diarrhœa mortality is heavy.

Taking the two ten-yearly periods available since enteric fever was returned separately in the Registrar-General's report we find that the mortality from diarrhœa was as shown in the following table.

TABLE IV.—*Showing the Mortality from Diarrhœa in the Two Ten-Yearly Periods 1871-80 and 1881-90 and the Average Returns for the Period 1891-97.*

Periods.	Enteric fever.	Diarrhœa.
In London.		
1871-80	244	949
1881-90	189	748
1891-97	135	693
In England and Wales.		
1871-80	326	916
1881-90	198	661
1891-97	170	648

I have prepared tables which show that there is no close relation between the mortality from enteric fever and from diarrhœa. It seems reasonable to say that although the conditions which favour enteric fever and the conditions which favour diarrhœa may, and often do, co-exist and although the sets of conditions may have something in common, still there are essential differences between them. Given a district in which it is known that enteric fever is persistent it would be unsafe to infer that that district would suffer severely from diarrhœa also. That the converse holds good is shown by the counties of London, Stafford, Warwick, and Leicester, with little enteric fever, but much diarrhœa.

Lastly, we have the influence of active prevention on the two diseases. The spread of enteric fever has been traced to the distribution of a specific bacillus, usually in water or milk, and any outbreak leads to an immediate investigation of the source and spread of the infection, while cases are notified, patients are isolated, and disinfection is systematically applied. There are thus active forces constantly engaged in diminishing typhoid fever, and that alone would vitiate any comparison between that malady and diarrhœa. In the latter disease we have no full knowledge of the nature of the specific micro-organism or micro-organisms concerned, and we do not practise notification, isolation, and disinfection, so that the action of what may be called natural causes upon the course of the two maladies differs widely, inasmuch as practical sanitation limits and controls to a great extent the spread of typhoid fever.

Dr. Newsholme has pointed out a difficulty in comparing diarrhœa rates of different localities, inasmuch as the vast majority of deaths from that disease occur among young children; the proportion of such deaths to total population, therefore, depends not only on the actual prevalence of the disease but also on the greater or less number of young children in the population. This view must be considered in the following section.

AN ANALYSIS OF LOCAL INCIDENCE IN COUNTIES OF DIARRHŒAL MORTALITY UPON CHILDREN UNDER FIVE YEARS OF AGE.

There is much to be said for Dr. Newsholme's contention that towns with a large infantile population are unfairly handicapped by reckoning diarrhœa mortality in relation to total population. A similar objection, however, applies to the general zymotic death-rate, which depends largely on the proportion of children under 10 years of age. At later ages a like difficulty arises in connexion with cancer mortality. High death-rates from that disease in proportion to total population have been held to imply local prevalence, whereas their real cause has in many cases been the survival of a more than average proportion of people to the ages at which cancer is most frequent. The prevalence of any disease which specially affects persons of particular ages can therefore be accurately measured only when due allowance is made for the age constitution of the population. As Dr. Newsholme points out, the proportion of deaths from diarrhœa under one year of age to 1000 births is almost an ideal measure of the prevalence of the disease. But in most of the available statistics the deaths from diarrhœa under one year of age are not shown. He therefore adopts an ingenious compromise as affording some approximation to accuracy—namely, the proportion of deaths from diarrhœa at all ages to 1000 births. An initial difficulty in the use of this method may be mentioned. The figures it gives are purely artificial; they are not comparable with other figures to which we are accustomed. A rate per 1000 of population, inaccurate though it be, represents to the mind something definite, which we unconsciously range against some average general death-rate; and a rate of infant mortality from any disease to 1000 births is at once compared with some standard of infant mortality from all causes. But a comparison of deaths at all ages with 1000 births seems to need translation into some more familiar terms. It might be suggested that a fixed proportion, determined according to some appropriate standard of the deaths from diarrhœa at all ages, should be assumed as the number under one year of age, and that this latter number should be taken in connexion with the births. The results of this slight variation on Dr. Newsholme's method would have exactly the same amount of accuracy as those by the method given in his paper, and they would have the advantages of being more readily grasped by the mind and of being strictly comparable with the total infant mortality from all causes. Dr. Newsholme makes a good case for his new method when he shows how largely the differing proportions of infants in Dover and in Hastings, in Huddersfield and in Newcastle-upon-Tyne, affect the comparison of the death-rates in those towns. Those, however, are probably extreme cases, and a careful study of a table in which he shows the diarrhœa mortality of the several

townships of Manchester in 1896–98 (1) by the accurate method of deaths under one year in proportion to births; (2) by his proposed method of deaths at all ages in proportion to births; and (3) by the old method of deaths at all ages in proportion to population, shows less error by this last method than might have been expected. This fact is illustrated by Table V., showing the townships arranged in order according to the first of the above three methods, and in separate columns the numerical position each township would occupy by the second method and by the third method. It is evident that the second method approaches the correct order more closely than the third, but the old method departs from practical agreement only in two or three cases. Before leaving this part of the subject one is tempted to enter a plea for inaccuracy based upon the simplicity of the old method. As a general rule the town with high birth-rates, and consequently with large proportions of their populations specially liable to diarrhœa, are the towns in which overcrowding, with its attendant insanitary evils, is most common and most difficult to deal with. If some exaggeration of the diarrhœal death-rates of such towns should lead to more vigorous sanitary administration a certain amount of inaccuracy would be condoned by the resulting public good.

TABLE V.—*Townships of Manchester and their Death-rates from Diarrhœa.*

Townships arranged and numbered in the order of their diarrhœa deaths under one year per 1000 births.	The order in which the townships would come	
	By the deaths at all ages per 1000 births.	By the deaths at all ages per 1000 population.
Clayton	1	4	2
Central	2	1	4
Ancoats	3 and 4	2 and 3	1
Bradford			3
West Gorton	5 and 6	5 and 6	5 and 6
Openshaw			
Harpurhey	7	9	7
Hulme	8	8	8
St. George's	9	7	5 and 6
Beswick	10	10	10
Ardwick	11	11	11
Newton	12	12	12 and 13
Rusholme and Kirk	13	13	14
Chorlton-upon-Medlock	14	14	15
Moston	15	15	12 and 13
Cheetham	16	16	16
Crumpsall	17	17	17
Blackley	18	18	18

We may next turn to a part of the subject in which use is made of official figures, giving the mortality from diarrhœa of children under five years of age in proportion to the population at the same ages. As a considerable number of deaths from diarrhœa occur about the second year of life, and as the age proportions in the whole group under five years vary much less than the age proportions among young children and older people, the comparisons given by these death-rates may be taken as practically accurate. The advantage of discussing the mortality for diarrhœal diseases in relation to its incidence on children under five years of age has frequently been pointed out. The materials for such a discussion are given in Table II. of the Registrar-General's Supplementary Report for 1881–90. In that table the death-rates of children under five years of age, in proportion to 1,000,000 children of those ages living, are given for every county and registration district in the country. It is somewhat difficult to bring this mass of figures into a manageable form. The table, however, has been ably analysed by Mr. A. C. Waters of the General Register Office, and the results appear to me to point to a definite and important conclusion which will presently appear. Examining the district rates in each county separately they may be divided generally into three groups: (1) districts with the highest rates, (2) districts with medium rates, and (3) districts with the lowest rates. The average rates may then be calculated, the average rates (*a*) in the remainder of the county after excluding the highest rates and (*b*) in the remainder after excluding both the highest and the medium rates. The rest of this section deals with children under five years of age only, the rest of the population and deaths at other ages are ignored. A further calculation gives the percentage of the children under five years of age in the whole county contained in each of these remainders. In a few counties the differences between the several districts were not sufficiently pronounced for division into three groups; in these cases two groups only have been formed or the county has been left entire. In some other cases a larger number of groups seemed desirable; thus Leicestershire and some other counties are divided into four groups, London into five, and Lancashire into six. An example will perhaps make the method clearer. The diarrhœa-rate among children under five years of age in Kent was 330 per 100,000.* Ten districts in the county had rates of 348 and upwards, the highest being 520. Excluding these 10 districts, 57 per cent. of the population under five years remains, and the rate in this remainder was 267 per 100,000. But this remainder contains five districts with rates between 301 and 330; further excluding these 30 per cent. of the population remains, with a rate of 224 per 100,000. The county of Northampton also has a rate of 330 per 100,000. Excluding two districts with rates of 392 and 627, 60 per cent. of the population remains with a rate of 190; and further excluding three districts with rates between 234 and 265, 31 per cent. remains with a rate of 133 only. It will be seen that this way of treating the figures establishes an important difference between the death-rate of 330 per 100,000 in Kent and the equal death-rate in Northamptonshire. It shows that in the latter county the high rate is mainly due to excessive diarrhœal mortality in two districts (Northampton and Peterborough), while a considerable part of the county is remarkably free from the disease. On the other hand, although the rates in different parts of Kent vary widely the disease is much more generally prevalent than it is in Northamptonshire. The accompanying table (Table VI.) gives the figures for four counties on this plan. Analysis of all counties on this plan shows that in many with very high aggregate rates there are areas which suffer but

TABLE VI.—*Average Annual Mortality of Children under Five Years of Age per 100,000 living in 1881–90 in the Counties mentioned and in the Remainder of each County after excluding those Districts which had the Highest Mortality.*

Name of county and description of parts of county for which separate figures are given.	Proportion per cent. of population under five years of age contained.	Death-rate from diarrhœa.	Highest death-rate in any district.
London (30 districts)—the entire county	100	544	914
Excluding six districts with rates of 709 and over	87	513	674
Excluding 11 districts with rates of 595 and over	73	491	559
Excluding 20 districts with rates of 507 and over	31	442	495
Excluding 27 districts with rates of 445 and over	6	325	335
Surrey (11 districts)—the entire county	100	280	498
Excluding three districts with rates of 342 and over	53	207	230
Excluding six districts with rates of 201 and over	26	133	178
Kent (26 districts)—the entire county	100	330	520
Excluding 10 districts with rates of 348 and over	57	267	340
Excluding 15 districts with rates of 301 and over	30	224	280
Sussex (20 districts)—the entire county	100	297	634
Excluding three districts with rates of 449 and over	66	166	312
Excluding six districts with rates of 278 and over	49	117	159

* The rates are calculated per 100,000, not per 1,000,000, as in the Registrar-General's report.

little. For example, in Leicestershire with a rate of 728 per 100,000, and one district where the rate reaches 1267, 28 per cent. of the children are subject to a rate of 204 (less than the rate among the 30 per cent. "remainder" of Kent), and 18 per cent. of the children to a rate of 168 only. Again, in Warwickshire the rate is 637, and in one district it reaches 887, but among 15 per cent. of the children it is only 168. Such cases as these go far to prove that the causes of excessive diarrhœal mortality are mainly local, not climatic, that although high temperature and low rainfall may be necessary factors in producing a serious outbreak they are only able to produce it when some other conditions already exist. Temperature and rainfall may be practically the same over neighbouring areas; but one of these areas may suffer heavily and the other lightly from epidemic diarrhœas. It must, however, be noted that there are some counties in which hardly any districts escape. For example, only 6 per cent. of the population of Lancashire has an average rate as low as 253 per 100,000, and only 3 per cent. of the population of Durham has an average rate so low as 156. It must be inferred that the local conditions favourable to the development of diarrhœa exist in almost every part of these counties. It will be seen that the grouping of districts as having relatively high, medium, or low death-rates in any county was necessarily somewhat arbitrary. Each county might have been divided as nearly as possible into three or more equal parts—a third part with highest rates, another third part with medium rates, and the remaining third part with lowest rates. Such division could, however, only have been rough and would often have placed two or more districts with nearly equal rates in different groups of the same county. For the purpose in view the method chosen appeared most suitable. Where a large difference existed between the rate for one district and the next higher or next lower rate that particular point has been generally chosen for the division of the groups. The rates should therefore in all cases be considered in connexion with the percentage of the several counties to which they relate.

In order to show what districts in each county stand out as relatively more liable to diarrhœa than the other parts of the counties a supplementary table has been prepared (see Table VII.). It will be seen that what are presented as Table VI. and Table VII. only give particulars relative to London, Surrey, Kent, and Sussex. These two tables are, in fact, no more than excerpts from complete tables drawn up on the same plan and supplying similar information for all the counties of England and Wales. The general conclusions given in the text were drawn from these complete tables. Table VII. shows in detail the six districts

TABLE VII.—*Districts with relatively Highest Death-rates from Diarrhœal Diseases among Children under Five Years of Age in 1881-90.*

London (six districts containing 13 per cent. of the population).	
St. George-in-the-East	914
Stepney	621
Strand	769
Whitechapel	740
Fulham	723
Holborn	709
Surrey (three districts containing 17 per cent. of the population).	
Richmond	498
Farnham	399
Croydon	34
Kent (ten districts containing 43 per cent. of the population).	
Thanet	520
Gravesend	485
Strood	418
Milton	410
Medway	388
Dover	378
Maidstone	377
Hoo	361
Sheppey	352
Canterbury	348
Sussex (three districts containing 34 per cent. of the population).	
Brighton	634
Eastbourne	475
Steyning	449

in London with rates of 621 per 100,000 and over, and the three districts in Surrey with rates of 342 and over, and so on. It is not a list of the districts with the highest mortality in the whole country, but only of the relatively highest in individual counties. The full list from which this is taken includes a district with a rate of only 148 in Wiltshire and excludes a district with a rate as high as 765 in Lancashire, because 148 is a relatively high rate in Wiltshire, while 765 comes only in the second highest group of Lancashire districts. This explanation is necessary lest the object of the table should be misunderstood.

Table VIII. shows a few of the counties in the order of their

TABLE VIII.—*Opening Portion and Concluding Portion taken from complete Table showing the Counties of England and Wales arranged in the Order of the Diarrhœa Mortality of Children under Five Years of Age in 1881-90.*

County.	Diarrhœa rate per 100,000 children under 5.	Highest diarrhœa rate in any district in the county.	Group of districts with lowest rates as in Table VI.	
			Proportion of population to total in county.	Diarrhœa rate of children under 5.
Leicestershire ...	728	1267	18 per cent.	168
Lancashire	646	1336	6 ,,	253
Warwickshire ...	637	887	15 ,,	168
East Riding... ...	590	775	11 ,,	213
Nottinghamshire	555	893	18 ,,	175
London...	544	914	6 ,,	335
Staffordshire ...	514	723	17 ,,	277
* * * *	* *	* *	* * * *	* *
Dorsetshire... ...	131	292	72 per cent.	24
Westmorland ...	117	144	100 ,,	11
Wiltshire	113	173	77 ,,	9
North Wales ...	111	173	76 ,,	93

rates, beginning with the highest; and against each county is shown (*a*) the highest diarrhœa-rate in any district in the county; and (*b*) the percentage of population in the group of districts with the lowest rates as shown in Table VIII. The full table brings out the curious fact that some counties—e.g., Sussex, Herts, Devonshire, South Wales, and Herefordshire—which have comparatively low rates taken as wholes, contain one or more districts with excessive rates and other districts with very low rates. This further emphasises the contention that diarrhœal diseases are first and foremost the result of strictly local conditions.

REMARKS ON THE DIAGNOSIS AND PROGNOSIS IN 100 CASES OF DOUBLE OPTIC NEURITIS WITH HEADACHE.

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THE detection of optic neuritis is of the greatest importance in the diagnosis of cerebral affections. Nevertheless, in certain cases of double optic neuritis with headache considerable caution is necessary before coming to a conclusion as to the exact nature of the disease. Though these two symptoms are present in the majority of cases of brain tumour and are so frequently due to this cause they are also met with in other diseases. In some cases of granular kidney, for example, the patient comes under treatment for headache and failure of vision; and ophthalmoscopic examination may reveal intense optic neuritis like that of cerebral tumour (neuritic form of albuminuric retinitis). At first the symptoms appear to indicate cerebral tumour, but a careful examination of the urine and cardio-vascular system will clearly reveal the cause. Limited space does not permit an enumeration of all the causes of double optic neuri is with headache. The results of the examination of 100 cases presenting these two symptoms reveal, however, several points of interest. Most of these cases have been seen by us conjointly; some were seen separately, whilst others (in Groups I. to VIII.) were examined by one of us (R. T. W.) whilst holding the post of medical registrar at the Manchester Royal Infirmary. For permission to include the latter amongst our cases we are indebted to the medical board of that hospital.

With respect to the diagnosis and termination these 100 cases may be grouped as follows:—

I. Brain tumour, verified by necropsy	27
II. Cases terminating fatally; probably, majority due to brain tumour; but no necropsy obtained	27
III. General symptoms of brain tumour; but necropsy revealed distension of the ventricles of the brain with fluid; no tumour (serous meningitis of ventricles)...	2
IV. Cerebral abscess (fatal)	3
V. Tuberculous meningitis (fatal)...	2
VI. Chronic interstitial nephritis; neuritic form of albuminuric retinitis (fatal)	3
VII. Toxic conditions and blood diseases:—	
Chronic lead poisoning	3
Ulcerative endocarditis (fatal)	1
Purpura hæmorrhagica (fatal)	1
Henoch's purpura (fatal)	1
? Chlorosis with cerebral symptoms (recovery)	3
VIII. Headache and double optic neuritis (without localising symptoms); probably syphilitic (recovery with blindness, 2; with impaired vision, 4)...	6
IX. Headache and double optic neuritis without localising symptoms; no evidence of syphilis; duration six and two and a quarter years respectively. Termination still uncertain	2
X. Headache and double optic neuritis without localising symptoms; no evidence of syphilis; recovery with blindness, 8; with impaired vision, 3; with good vision 8	19

The following are brief abstracts of the notes of the cases in Group X. which have come under our observation and which we have followed for a considerable period of time. The number of years during which each case has been followed is given in parentheses after the brief note.

1.—A boy, aged 10 years. Double optic neuritis, headache, and vomiting; slight internal strabismus of the left eye. Recovery with normal vision. (Seven years.)

2.—A young woman, aged 17 years. Headache, vomiting, and double optic neuritis. Recovery, but with impaired vision in one eye and blindness in the other. (Five and a half years.)

3.—A young woman, aged 18 years. Double optic neuritis, headache, and vomiting; several epileptic fits. Recovery, with useful vision in one eye; vision in the other is very defective. (Seven years.)

4.—A young woman, aged 18 years. Double optic neuritis, headache, and vomiting. Recovery, but complete blindness followed. (Four years.)

5.—A young woman, aged 19 years. Double optic neuritis, headache, and vomiting. Recovery with good vision. (Three years.)

6.—A man, aged 20 years. Double optic neuritis, headache, and vomiting. Recovery, but complete blindness followed. (Two and a half years.)

7.—A girl, aged 10 years. Double optic neuritis, headache, and vomiting; knee-jerks were absent. Recovery, but complete blindness followed. (Three years.)

8.—A boy at the age of 13 years had double optic neuritis and headache; recovery ensued. At the age of 15 years he had a return of headache and double optic neuritis; also vomiting. At a later date there was partial anæsthesia in the distribution of the right fifth cranial nerve; the right cornea was opaque; there was complete blindness in both eyes. Partial anæsthesia of the face and blindness remained, but otherwise the patient recovered and felt quite well nine months after the second attack.

9.—A girl, aged 16 years. Double optic neuritis, headache, vomiting; slight internal strabismus of the right eye. Recovery with normal vision. (Four and a half years.)

10.—A boy, aged 10 years. Double optic neuritis, headache, and vomiting. The head had increased in size. Recovery, but with complete blindness. (Three years.)

11.—A woman, aged 19 years. Double optic neuritis, headache, and vomiting. Recovery with normal vision. (Three years.)

12.—A boy, aged 15 years. Double optic neuritis, headache, and vomiting. Recovery. (Two and a half years.)

13.—A woman, aged 21 years. Double optic neuritis, much swelling of the discs, headache, and vomiting. Complete recovery with normal vision. (Four and three-quarter years.)

14.—A girl, aged 15 years. Double optic neuritis, headache, and vomiting. Recovery with good vision. (Five and a quarter years.)

15.—A boy, aged 12 years. Double optic neuritis, headache, and vomiting; slight internal strabismus of the right eye. Recovery with good vision. (Four years.)

16.—A man, aged 40 years. Double optic neuritis, headache, and vomiting. Recovery, but with complete blindness. (18 months.)

17.—A youth, aged 17 years. Double optic neuritis, headache, and vomiting. Recovery with total blindness. (Five years.)

18.—A woman, aged 22 years. Double optic neuritis, headache, and vomiting. Recovery, but with total blindness. (Two and three-quarter years.)

19.—A girl, aged 14 years. Double optic neuritis, headache, and vomiting; internal strabismus (left) for 14 days. Recovery with normal vision. (Two years.)

The following are brief notes of the cases in Group IX.:—

20.—A girl, aged 12 years. Headache, vomiting, and double optic neuritis in December, 1893. Recovery in 12 months, but vision was much impaired. She remained well with the exception of occasional headache until December, 1899. Then the severe headache returned. She became ataxic and optic neuritis reappeared. In April, 1900, the headache was much less and the patient felt much better, but she was completely blind. (Six and a half years.)

21.—A young woman, aged 17 years. Headache, vomiting, and double optic neuritis. Vision was impaired. Vomiting ceased; the headache continued for over two years, but recently disappeared after lumbar puncture. (Two and a quarter years.)

In all cases of double optic neuritis a systematic and careful examination of the patients should be made. The urine and cardio-vascular system should be examined for signs of chronic interstitial nephritis; the gums should be examined for the lead line and other indications of lead poisoning should be sought for; the question of chlorosis or other "blood disease" should be considered; and the ears should be examined for signs of otitis. But when all these conditions have been excluded and when the symptoms are apparently due to a cerebral affection there is one group of cases in which localising brain symptoms are absent and in which the chief indications of disease are headache, double optic neuritis, and often vomiting. In most of these cases syphilis can be also excluded. A diagnosis of brain tumour is given, and the growth is thought to be situated in some region in which the localising symptoms are at first indefinite—cerebellum, temporo-sphenoidal lobe, or præfrontal region. Such a diagnosis often proves to be correct. Localising symptoms may develop later and a necropsy may show the accuracy of the opinion expressed. But sometimes, to the surprise of the medical man, a fatal termination does not occur; the symptoms sometimes disappear and the patient recovers, though very often impairment or loss of vision remains. The patient may continue in good health for years or for a lifetime afterwards. Most medical men who have paid much attention to cerebral diseases will have met with a case or cases of this kind. The chief object of our article is to call attention to this class of cases and to indicate the frequency of their occurrence. 19 out of 100 cases of double optic neuritis with headache in the table just given could (after careful examination) be placed in this group (X.).

What is the cause of the symptoms in this group of cases? Possibly in some cases the symptoms are caused by a non-malignant tumour (or tuberculous mass) which ceases to extend and becomes quiescent and encapsuled. One of us[1] has recorded a case in which symptoms of cerebral tumour (including Jacksonian epilepsy and hemiplegia) gradually subsided and temporary recovery ensued; but three years later symptoms of cerebellar tumour developed and death occurred. The necropsy revealed a recent large tuberculous mass in the cerebellum and an old encapsuled tuberculous mass just beneath the motor cortex in the right cerebral hemisphere. The latter had evidently been the cause of the early cerebral symptoms from which the patient had recovered. An instructive case has been recorded by Dr T. K. Monro of Glasgow.[2] The patient, at the age of 16 years, suffered from severe headache with failure of vision which passed on to complete blindness. For 33 years he was an inmate of a blind asylum, ophthalmoscopic examination showing double optic atrophy. He died at the age of 63 years from cancer of the stomach and the post-mortem examination also revealed a large myxomatous tumour in the left half of the cerebellum. In all probability the early cerebral symptoms had been associated with optic

[1] R. T. Williamson: Medical Chronicle, September, 1896.
[2] Glasgow Medical Journal, September, 1896.

neuritis which had passed on to optic atrophy and the cause had been the myxoma in the cerebellum which had remained quiescent for 46 years.

In some cases of double optic neuritis with headache and general cerebral symptoms when recovery occurs the cause is probably distension of the ventricles of the brain with fluid—serous meningitis of the ventricles (Quincke). This condition was present at the necropsy and no tumour growth could be found in two out of the 100 cases tabulated. It is probable that a number of the cases in which a diagnosis of cerebral tumour has been made, but in which recovery has occurred have been due to this condition—serous meningitis of the ventricles. Probably the two cases in Group IX. and possibly some of the cases in Group II., in which death did not occur for several years after the onset of symptoms, were of this nature. Other cases which recover may be due to a basal meningitis.

The table given above is instructive both as regards the diagnosis and prognosis in cases of double optic neuritis with headache. It shows the necessity for careful examination before giving either a diagnosis or prognosis, and the clinical group of cases No. X. ought always to be borne in mind whenever the diagnosis is obscure and localising symptoms are absent.

There are two other points to which we would draw attention. In 10 out of the 100 cases the patient recovered completely from the headache and general cerebral symptoms and regained perfect health, but the optic neuritis was followed by atrophy and complete blindness. In the face of this terrible termination we cannot help thinking that simple trephining of the skull and the removal of bone, without any interference with the brain, as suggested and practised by Mr. Victor Horsley for the relief of optic neuritis and pressure symptoms, is a method of treatment worthy of more frequent trial when vision is failing markedly. Dr. James Taylor[2] has published cases which appear to show that this method of treatment may be of service in checking the optic neuritis and failure of vision. In the class of cases in Group X. if there should be a suspicion that the symptoms may be due to serous meningitis of the ventricles, lumbar puncture appears to be worthy of trial, since several cerebral cases are now on record in which this treatment appears to have been of great service, and in which the cause of the cerebral symptoms was probably that just mentioned.

Manchester.

A STUDY OF THE HEART-WALL IN DIPHTHERIA, RHEUMATIC FEVER, AND CHOREA.

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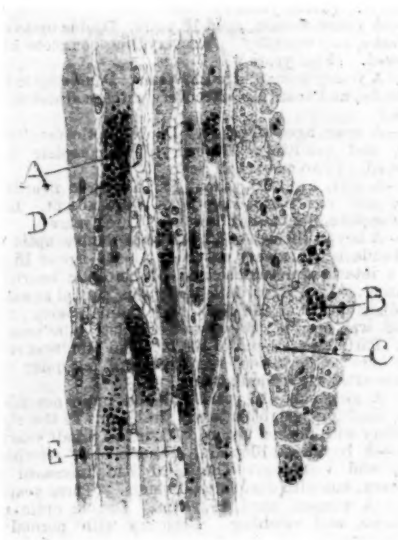
THE results upon the heart which are produced by diphtheria and rheumatic fever respectively appear at first sight to be so different that to compare them might seem to be of doubtful value. Diphtheria recalls the sudden catastrophe of death from syncope and a heart the valves and pericardium of which are unaffected. Rheumatic fever, on the other hand, recalls a prolonged illness—a series of partial victories and defeats—associated pathologically with valvular and pericardial inflammation and clinically with valvular murmurs and pericardial friction sounds. Nevertheless, it is well known that diphtheria very frequently injures the heart in a way that differs from this dramatic nerve paralysis and syncope by acting as a direct poison to the cardiac muscle. The proof of this rests not only upon clinical and pathological evidence but upon the evidence of experimental pathology. Quite recently this action of the diphtheria toxins upon the heart has been emphasised by Dr. Villy, late assistant medical officer to the Park Fever Hospital, in a paper upon vomiting and cardiac failure in this disease.[1] There is in this form of cardiac affection dilatation of the heart (which is usually moderate), feebleness of the pulse, and disturbance of rhythm. The first sound at the apex is short, and the pulmonary second sound becomes unduly loud; in severe cases the patient lies in bed pale and quiet with the muscles devoid of tone and the mind listless. The condition is one that may be seen early in the disease and may occur without any symptoms of nerve paralysis. In rheumatic fever, also, there may be dilatation of the heart which is sometimes considerable, and this may occur irrespectively of demonstrable valvular or pericardial inflammation. With this dilatation there are feebleness of the pulse, shortness of the first sound, and accentuation of the pulmonary second sound. There are also, to a minor degree, pallor, listlessness, and loss of muscular tone. The explanation of this condition in rheumatism is in all probability that the poison of the disease has also a direct effect upon the cardiac muscle.

In this paper I bring forward evidence in support of this view, basing the argument upon the results of clinical observation and microscopical investigation of the heart-wall. These investigations, extending over three years, include observations upon 18 cases of rheumatic heart disease, four cases of diphtheria, a case of chorea, and a case of septicæmia in an animal injected with a pure culture of staphylococci. One of the cases of diphtheria, one of the cases of rheumatism, and the case of chorea are selected from these to illustrate the salient points in this argument, and I am indebted to Dr. John Morton for the case of diphtheria, to Dr. W. B. Cheadle for that of rheumatism, and to Dr. Archibald Garrod for the example of chorea. For the sake of clearness a brief allusion will first be made to the clinical course of the cases of diphtheria and rheumatism. The details of the microscopy are dealt with at greater length and the extreme changes in the heart-wall in these two examples are represented in the drawings from the sections of the myocardium.

CASE 1. *The case of diphtheria.*—The patient, a child, about five years of age, contracted a sore-throat which developed the characters of faucial diphtheria. Later in the illness signs of progressive and grave cardiac failure became evident. The pulse was extremely feeble and there were pallor, vomiting, restlessness, and finally almost complete suppression of urine. There was no evidence of diphtheritic neuritis, and the child died from cardiac failure on the seventeenth day of the illness.

FIG. 1.



A part of the left ventricle from the case of diphtheria fixed in Herrmann's fluid. A, Muscle fibre showing much localised fatty change. B, Muscle fibre in transverse section showing fatty change. C, Muscle fibre in transverse section showing destruction of the protoplasm. D, Muscle fibre entirely destroyed. E, Cellular elements between the muscle fibres. The more gross changes are alone shown in this figure. The alterations in contour and size of the fibres are distinctly seen in this section.

[2] Transactions of the Ophthalmological Society of London, vol. xiv.
[1] Vomiting and Cardiac Failure in Connexion with Diphtheria, Medical Chronicle, September, 1899.

Dr. John Morton made a necropsy within 24 hours of death and brought me for examination parts of the left ventricle and kidneys. The kidneys showed extreme congestion, but no indication of an acute nephritis. The condition of the myocardium was as follows:—(*a*) Macroscopic changes.—The cardiac muscle was pale and the pericardium was normal.—(*b*) Microscopic changes.—Fixative Herrmann's fluid. Stain safranin.

1. *In the muscle fibres.*—Transverse striation was lost in many places, but was still present in others. In some fibres longitudinal striation was more evident than usual. The contour of many of the fibres was irregular and the irregularity was due in part to shrinking in width from destruction, and in part to bulging from fatty changes. Some of the fat droplets were of considerable size, and the areas in which the fatty changes in the fibres were marked were, as is usual in diphtheria, very irregular in distribution. Some of the fibres were completely destroyed and the field of section had in these places a reticular structure. Transverse sections of the muscle fibre showed the variability in their size with great distinctness.

2. *In the nuclei.*—The nuclei of the muscle fibres showed great variability in size and staining properties. In some fibres the nuclei were swollen, in many divided into two, and in some of these a few dark granules could be seen between the two nuclei. Some of the swollen nuclei stained diffusely and exemplified very clearly the condition of hyperchromatosis. The granules that were present in the space between the divided nuclei stained with the methyl green, and did not, as is the rule in more chronic affections of the heart, show that dark-brown colouration which is so characteristic an appearance in this tissue. Other nuclei were very small and also stained a diffuse green. Some were round in outline and appeared as mere dots in the centre of the fibre. In some the chromatin network was definite and evenly distributed; in others it was massed to the poles, leaving a colourless centre; and in others it was centric, leaving a colourless periphery. In many cases the protoplasm of the muscle fibre in the neighbourhood of the nuclei showed an appearance of vacuolisation.

3. *In the interstitial tissue.*—Some portions of the left ventricle were fixed in perchloride of mercury and the sections showed that there was no increase in the fibrous tissue of the ventricle wall, but in places there was an increase in the cellular elements between the fibres.

4. *In the pericardium.*—The pericardium was not inflamed.

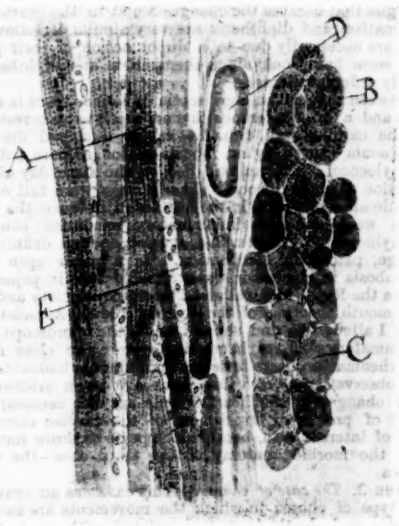
There was, then, in this case a severe destructive lesion of the essential elements of the heart-wall such as has been recorded by many other observers in this form of diphtheritic heart failure.

At this point it is necessary to make a brief allusion to the microscopic investigations of the heart-wall in animals that have been injected with diphtheria toxins. This work has been carried out by various experimental pathologists and I quote briefly from a paper by Mollet and Regaud upon the subject.[1] These observers found that lesions of the muscular fibres were constant and that they occurred sometimes alone and sometimes together with an interstitial leucocytosis. Vascular lesions in the myocardium also were frequent. (*a*) Macroscopic changes.—Macroscopically there were in some cases endocardial, myocardial, and pericardial hæmorrhages, and an abnormal appearance of the myocardium was frequent. (*b*) Microscopic changes. (1) In the muscle fibre.—There were granular and fatty changes in the muscle fibres and sometimes vacuolisation. Striation was often lost. (2) In the nuclei.—The nuclei were found distorted, swollen, and stained with difficulty. (3) In the interstitial tissues.—There was in some cases an increase of the cellular elements between the fibres. More details were given in this paper as to the date of appearance and probable meaning of these abnormalities, but it is sufficient for the present purpose to recognise the similarity of these changes to those described in the case of diphtheria.

CASE 2. *The case of rheumatism.*—A young man, aged 19 years, was admitted into St. Mary's Hospital on Dec. 4th, 1899, for pains in the limbs and morbus cordis. There was a history of three previous attacks of rheumatic fever, the first occurring at the age of seven years. When admitted the patient was very ill, the face was cyanosed, and there was orthopnœa. The temperature was 102° F., the pulse was 108, and the respirations were 40. The pulse was feeble and the heart was excited and greatly dilated with evidence of old mitral disease. Pleural friction was audible on both sides, but I did not detect pericardial friction at the time of his admission. The next day there was general pericardial friction, and death rapidly followed on the 7th.

[1] Myocardite Diphthérique, Annales de l'Institut Pasteur, c. 2, 25 Fevrier, 1897.

FIG. 2.



A part of the left ventricle from the case of acute rheumatic carditis fixed in Herrmann's fluid. A, Muscle fibre showing much fatty change. B, Muscle fibre in transverse section showing fatty change. C, Muscle fibre in transverse section, not fatty. D, Bloodvessel in a connective tissue space. E, A capillary between two muscle fibres. The finer details described in the paper would necessitate several more plates for their representation. The gross changes only are delineated in this figure. The muscle fibres are seen to have preserved their contour.

The necropsy was made 14 hours after death and some ounces of slightly turbid fluid were found in the pericardial sac, with some recent lymph especially upon the posterior aspect of the heart. There was no great distension of the pericardial sac with this fluid, none by any means sufficient to account for the wide cardiac area during life. (*a*) Macroscopic changes.—The appearance of the heart-wall was remarkable for its great pallor. The mitral valve showed no recent changes but those of a moderate stenosis due to previous fibrosis. The aortic valve showed recent vegetations springing from previously uninjured cusps. The valves on the right side were unaffected. (*b*) Microscopic changes.—Fixative Herrmann's fluid. Stain safranin.

1. *In the muscle fibres.*—The striking feature was the extreme fatty change in the muscular fibres, some of these being almost a mass of fine fat droplets. This change extended through the ventricle wall and was remarkably general. In some cases, nevertheless, a considerable number of fibres had escaped that change and showed distinct striation. The contour of the fibres was preserved and there was not that extent of destruction seen in the case of diphtheria.

2. *In the nuclei.*—Under higher magnification. Stain methyl green. The nuclei stained well and their size was fairly constant. Marked alteration of shape and staining properties were not as evident as in the case of diphtheria. Under this high magnification minute clear spaces could be seen in the muscular fibres in addition to the fatty change, possibly representing an earlier change than this latter.

3. *In the interstitial tissue.*—There was some cell exudation between the muscle fibres in the neighbourhood of the vessels.

4. *In the pericardium.*—The pericardium showed recent inflammatory change, the endothelial lining still remaining intact. There was no evidence of a previous pericarditis.

To summarise: there was disease of the muscular fibres,

but the destructive nature of the change was not of the same gravity as in the case of diphtheria, and it is probable that these changes were due to the direct action of the rheumatic poison upon the myocardium. At this point a difficulty arises, for in rheumatism as yet no specific organism has been generally admitted and no toxins can be measured out by pathologists for inoculation experiments upon animals. There are no investigations to be put side by side with those of Mollet and Regaud to which reference has been made, and to argue that because the changes found in the heart-wall in rheumatism and diphtheria are very similar it follows that they are necessarily due to a direct action of their poisons may seem hazardous, since rheumatism and diphtheria are widely different diseases.

Between rheumatism and septic infections there is a closer link, and a brief reference is now made to an investigation of the cardiac wall from a rabbit that had died from septicæmia caused by an inoculation of a pure culture of staphylococci. The animal died on the sixth day after the injection of staphylococci. The kidneys were full of small pyæmic abscesses, and in the heart-wall between the muscle fibres were foci of inflammatory exudation containing staphylococci. The cardiac muscle showed definite fatty change, patchy in distribution. In a paper upon venous thrombosis in rheumatic fever (1898)[3] and in papers read before the Royal Medical and Chirurgical Society and at the Portsmouth meeting of the British Medical Association[4] in 1899, I alluded to and showed under the microscope similar inflammatory foci in rheumatic fever. The close relation that rheumatism bears to septic infections is undoubted, and this observation is of value because it is an evidence that fatty changes in the heart muscle are not necessarily the result of prolonged impairment of the cardiac circulation. It is of interest, also, because it appears to throw some light upon the morbid anatomy of the third case—the case of chorea.

CASE 3. *The case of chorea.*—This case was an example of that type of chorea in which the movements are extremely violent, and death is not associated with gross cardiac inflammation. The heart after death showed only a slight inflammation of the mitral valve. Microscopical investigation showed numerous micro-organisms in the valve and in the vessels at the base of the valve. I also examined many sections of the left ventricle and found some distinct foci of inflammatory exudation comparable to those which may be found in acute rheumatism or more obviously in the acute pyæmia from the injection of staphylococci into the circulation. In addition there was early fatty change in some of the muscle fibres, patchy in distribution. The close resemblance between this condition and that found in the rabbit's heart is suggestive, and both appear to me to strengthen the probability that rheumatism directly injures the cardiac wall.

To return once more to the case of rheumatic fever. A brief analysis of this case does, I believe, furnish additional evidence in favour of the myocardial change being due to the direct action of the poison upon the muscle. The importance of the case lies especially in the fact that the pericarditis was a terminal event in the disease, and that the pericardium had not been attacked in the previous rheumatic outbreaks. When the patient was first admitted I did not detect any pericardial friction, though the illness had extended over at least four weeks and the heart was greatly dilated. This absence of pericardial friction was no complete proof of the absence of pericarditis, but after death recent flakes of lymph and a considerable quantity of slightly turbid fluid were found in the pericardial sac—a sure indication of an acute rheumatic inflammation of brief duration. If, then, the clinical and pathological facts are coupled together there can be no doubt that in this case the pericarditis was a terminal event. The extreme myocardial disease cannot, therefore, be explained as secondary to pericarditis, and no one would maintain that it was the result of a comparatively slight valvular lesion. It is most probably to be explained as the direct effect of the rheumatic poison. This view is also supported by the finding of similar myocardial disease in four other acute cases of rheumatic fever, two of which have already been published.[5] The result of this investigation of the heart in diphtheria, rheumatism, and chorea is, I believe, to strengthen this view, one maintained by Dr. D. B. Lees[6] and supported by the investigations of Dr. Theodore Fisher.[7]

The practical bearing of this view is very considerable. It emphasises the important part that active rheumatism takes in the history of rheumatic morbus cordis. It is realised that in children active rheumatism is of vital importance, a fact further borne out by my recent analysis of fatal cases of rheumatic fever in children under 12 years of age.[8] In adults the occurrence is more liable to be overlooked. The condition of chronic rheumatic morbus cordis with the secondary changes that result from previous valvular inflammation is apt to be raised to the position of a primary disease rather than to be classed as a symptomatic affection and the breakdown to be sought for in mechanical overstrain. Yet in adults, as in children, fleeting rheumatic pains in the joints and pleuritic and præcordial pains are all frequent at the time when the heart gives way. It may be safely asserted that if a children's hospital is full of cases of active rheumatism and chorea an adult hospital will be full of broken-down chronic heart disease of rheumatic origin. After death in these chronic cases recent granulations may be found on the valves without any clinical evidence of rheumatism to lead to a suspicion of the active process—a point to which Dr. A. Garrod has also called especial attention at the recent discussion on rheumatism at the Chelsea Clinical Society. It is difficult in these complex cases to point with certainty to myocardial failure as the cause of the cardiac breakdown; for there is no myocardial friction sound or bruit to clinch the diagnosis. The results have to be judged often enough by symptoms which may be almost as well explained on the hypothesis of a mechanical failure. Yet the point is one of importance, for if due to rheumatic affection of the myocardium the power of the heart is undermined at its very foundation.

Another practical point, perhaps the most important of all, concerns the first attacks of rheumatism that are met with most frequently in childhood. The myocardium may show signs of the rheumatic disease before the valves or pericardium,[9] and no clinical fact is more striking than the unobtrusive method in which rheumatism produces in childhood heart disease which is often incurable. In such cases as these, to wait for a definite systolic valvular murmur before deciding that the heart is affected is dangerously akin to awaiting fæcal vomiting for a proof of intestinal obstruction. If the development of incurable rheumatic heart disease is to be satisfactorily arrested the best opportunity will be before definite proof of its existence is demonstrable by a valvular murmur.

A study of the microscopical details of the myocardial changes in diphtheria and rheumatism explains possibly the clinical fact that the dilatation in diphtheria is usually not so marked as in rheumatism, but the tendency to a fatal termination is vastly greater. The poison of diphtheria appears to destroy the muscle fibres far more than does that of rheumatism. The drawings in this paper, made under a comparatively low power, are sufficient to illustrate this point. This is, I think, a warning not to raise dilatation of the heart—a clinical entity so definite and well-recognised—into the position of a primary disease, for if this be done it is natural enough to consider that the greater the dilatation the greater the danger. Yet the truth of this, even for any one disease, is only approximate, for all diseases vary in their virulence and individual effects, and those that attack the cardiac wall may damage the muscle fibre at one time far more than at another. A poison acting upon the myocardium with great virulence will, it is clear, cause such an impairment of the heart's force that death must occur before there is marked dilatation, an occurrence not infrequent in diphtheria. It is probable that in rheumatism also this question of greater or less virulence is an important one. Though the extent of the cardiac dilatation must necessarily be a sign of very great significance, it is in these myocardial affections that the paramount importance of the symptoms becomes apparent; for

[3] Three Cases of Extensive Venous Thrombosis associated with Severe Rheumatic Carditis, THE LANCET, July 23rd, 1898, p. 206.

[4] Rheumatic Pericarditis, with an Investigation into the Microscopy of Rheumatic Morbus Cordis, Transactions of the Royal Medical and Chirurgical Society, 1899. Some Observations upon the Pathology of the Myocardium, Brit. Med. Jour., November, 1899.

[5] A Case of Virulent Acute Rheumatism with Extensive Purpura: THE LANCET, Oct. 28th, 1899, p. 1165.

[6] Acute Dilatation of the Heart in Rheumatic Fever: Transactions of the Royal Medical and Chirurgical Society, 1898.

[7] Discussion upon Rheumatic Heart Disease in Childhood at the meeting of the British Medical Association in Edinburgh, 1898.

[8] Lees and Poynton: An Analysis of 150 Fatal Cases of Rheumatism in Children under 12 Years of Age: Transactions of the Royal Medical and Chirurgical Society, 1898.

[9] Lees and Poynton: Acute Dilatation of the Heart in the Chorea and Rheumatism of Childhood, Transactions of the Royal Medical and Chirurgical Society, 1898.

these symptoms, I should suppose, even more than the dilatation, are an index of the muscle failure. In this principle probably lies the explanation of some of those more obscure cases of cardiac rheumatism, cases in which, without evidence of valvular or pericardial disease, there remain unaccountable breathlessness, præcordial pain, and other indications of cardiac inadequacy. Finally, from the theoretical standpoint the changes in the cardiac wall in acute rheumatism are of interest because their nature and complexity are decided evidence in favour of rheumatic fever being due to a microbic infection. In this paper it may be pointed out that the view that the poison of rheumatism acts directly upon the muscle does not imply that this poison is necessarily the result of a microbic infection, though, short of absolute proof, the infectious origin of rheumatic fever appears to rest upon very strong evidence.

In conclusion, my thanks are again due to Mr. H. G. Plimmer, pathologist to the hospital, for invaluable advice as to technique and methods of investigation whilst working in the laboratory at St. Mary's Hospital.

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A CASE OF RUPTURED LIVER; SUCCESSFUL OPERATION ON A PULSELESS PATIENT.

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A MAN, aged 25 years, was admitted to the Bristol Royal Infirmary on Jan. 16th, 1900, at 9 A.M., a case of glass weighing half a ton having fallen and crushed him against a wall. He walked with the aid of two men, but looked ill and collapsed, and complained of pain and tenderness in the right upper abdomen. At 11 A.M. his pulse was decidedly weaker and an increase of liver dulness was observed. I first saw him at 12 30 P.M. He was then restless, sick, and in considerable pain. His lips and gums were very pale and his pulse was scarcely perceptible. He became and remained pulseless for half an hour before the arrival of his wife, when an operation was immediately and rapidly performed with multaneous intravenous injection of saline fluid.

The abdomen was opened above the umbilicus. It was full of blood. There was no free gas or odour; the spleen was intact, but the liver was felt to be lacerated. The right rectus was therefore cut across—it was pale from anæmia and did not bleed—and a large quantity of clot was turned out of the abdominal cavity. The whole hand could now be passed into a laceration of the liver which extended right across the under surface from about the position of the gall-bladder—which was not to be seen—to the posterior part, dividing the liver almost in twain and leaving the upper part of the capsule floating freely on the blood-clot. The remainder of the right lobe appeared to be badly smashed and could not be defined owing to its crushed condition. The clots and fragments were removed. Then, as suturing was quite out of the question, three long pieces of iodoform gauze were packed in the laceration and a fourth piece below, comprising three and three-quarter yards of gauze several folds thick. In addition a sponge-cloth was packed below and to the left of the liver. The abdominal wound was approximated and nearly two pints of saline fluid were poured into the peritoneal cavity.

The duration of the operation was very short and the patient had severe dyspnœa afterwards and was restless, thirsty, and sick. He remained pulseless for 30 hours, after which the pulse became perceptible and gradually improved and the dressings were found to be bile-stained. On the following morning the patient was much better and deliberately sat up and asked for the paper to read the war news. Subsequently the discharge was copious, bile-stained, and smelt strongly ammoniacal, like urine. The gauze was removed at the end of a week and a temporary drain was established in the right loin. The patient went to the convalescent home two months after the injury and returned looking fat and strong with the wound securely healed.

Ruptures of the liver from abdominal contusions are divisible into three classes; (1) slight lacerations which end in spontaneous recovery; (2) cases in which a late operation has been done, usually aspiration of an encysted collection of blood or pus (of these several recoveries are recorded); and (3) cases in which the injury is severe and the patient collapses sooner or later after the injury. Of such cases I can only find three previously recorded in which what may be called a primary operation has been done successfully. The fourth case, here recorded, is conspicuous by the early period at which operation became necessary and by the fact of recovery from a condition of such grave anæmia. The following is a table of the cases:—

Cases of Successful Primary Operation for Ruptured Liver.

No.	Operator.	Reference.	Duration before operation.	Condition of patient.	Treatment.
1	H. C. Dalton.	Epit. Brit. Med. Jour., Nov. 1st, 1890, from Weekly Medical Review, Oct. 4th.	Next day.	Much pain, abdominal distension. Three-inch rent on posterior surface of the liver. No bad symptoms afterwards.	Gauze packing.
2	Christopher Martin.	THE LANCET, May 8th, 1897, p. 1271.	30 hours.	No bad symptoms for 16 hours after the first shock of the accident. Then progressive collapse with abdominal distension. Rent from one to two inches deep across the under surface.	Hot-water irrigation. Epigastric and suprapubic glass drainage-tubes.
3	M. Guinard.	Gazette des Hôpitaux, 1897, p. 629. Medical Week, 1897, vol. v., 496.	12 hours.	Horse-kick in the abdomen. Rupture of the under surface of the left lobe to a depth of three centimetres.	Suture.
4	Thomas Carwardine.	Author's case.	four hours.	Progressive collapse and anæmia. Pulseless before operation, and for 30 hours afterwards.	Gauze packing. Saline transfusion and infusion.

Clifton, Bristol.

MASTOID DISEASE, ACUTE OTITIS MEDIA AND PYÆMIA, OCCURRING IN AN EPILEPTIC AS A RESULT OF INJURY.

BY R. A. WILSON, M.D. EDIN.,
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A MARRIED man, aged 37 years, who was epileptic, was admitted to the Rubery Hill Asylum on April 27th, 1892. He enjoyed a tranquil existence until Jan. 26th, 1893, when at 3 A.M. another epileptic in a frenzy of acute maniacal delirium darted out of an adjacent bed and severely belaboured him about the head with an earthenware chamber utensil. For several years after this from time to time the patient complained of a deep-seated pain over the right mastoid process, together with slight deafness, but no objective symptoms could be made out, nor was there any bulging of the postero-superior wall of the meatus. On Nov. 16th, 1899, he fell in an epileptic seizure, sustaining an incised wound of the right eyebrow and also a contusion of the right ear. On the 24th of that month a purulent discharge made its appearance from the affected ear, and on the 27th the tympanic membrane was found to be perforated. On Dec. 4th the discharge was much more profuse, the temperature being 100° F. On the 5th the discharge was still greater and the ear required syringing six times a day. The temperature was 100°. On the 11th

there was a slight diminution of the discharge, the temperature rising at night to 100°. On the 12th the temperature rose from 98·8° in the morning to 102·2° in the evening, on the 13th it rose from 98·6° to 103·4°, while on the 14th it dropped from 104·4° to 103·4°. On the 15th there was still much discharge, the morning temperature being 104·2° and the evening 106·4°. The typhoid character of the temperature continued for the next two days, rising from 104·6° to 106·4° on the 16th, and from 101° to 104·8° on the 17th. On the 18th the morning temperature was 101·4° and the evening temperature was 101·6°. The discharge had diminished. He was dull, stupid, and irritable, and appeared to have difficulty in collecting his thoughts when trying to answer questions. On the 19th the temperature, which was 99·2° in the morning, rose to 104·8° in the evening. On the 20th the morning temperature was 99·6° and the evening temperature was 103·2°. An accumulation of pus was incised and evacuated over the left elbow-joint. On the 21st an abscess over the left metacarpus was opened. The discharge from the ear, which had diminished somewhat, became more copious. Perspiration was very profuse, alternating with rigors. When addressed he "rambled" in an incoherent manner. The morning temperature was 102° and the evening temperature was 101°. On the 22nd the temperature in the morning was 100°. A collection of pus over the right ankle-joint was opened. The condition of the patient was very grave. There was marked pallor of the countenance and he was unable to speak, though able to take fluid nourishment. He died at 12 30 P.M.

Extract from post-mortem book.—The dura mater over both petrous and mastoid portions was unaffected, as were also both anterior and posterior surfaces of the petrous and external surface of the mastoid. There was no change in the lateral sinus. The bone forming the roof of the tympanum was removed and disclosed pus in that cavity. The mastoid antrum was full of thick, cheesy pus; its walls were thin but hard and dense. Free communication existed between this cavity and the tympanum.

Remarks.—It seems reasonable to suppose that the injury inflicted in January, 1893, interfered with the nutrition of the mastoid cells and was the starting-point of the whole train of ill-effects, while the fall on Nov. 16th, 1899, hurried on the process to a fatal termination. Several circumstances in the case strike one as being peculiar: (1) the fact that the disease commenced in the mastoid portion and spread to the middle ear, instead of *vice versâ*; (2) the long period of latency during which the only symptoms were deep seated pain and slight deafness; (3) the rapid progress to a fatal termination when once the process had spread to the tympanum; and (4) the limitation of the disease to the mastoid and tympanic cavity, and the non-implication of the membranes and lateral sinus, although the ultimate cause of death was pyæmia.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

INTESTINAL OBSTRUCTION DUE TO GALL-STONES.

BY E. W. PALIN, M.B. OXON.

THE following notes may be of interest in connexion with the case recorded by Mr. John J. Waddelow in THE LANCET of April 28th (p. 1205). The case occurred in my practice very recently.

A woman, aged 80 years, was suddenly seized with symptoms of acute intestinal obstruction which persisted in spite of treatment until the sixth day, when complete relief followed the passage of a gall-stone measuring a little over one inch in diameter by three-quarters of an inch in thickness, nearly round, and well saturated with fæcal material. Several smaller stones were passed but unfortunately they were lost. There had never at any time in the patient's life been any symptoms pointing definitely to any gall-bladder trouble, but she passed through a very similar attack of obstruction some five or six years ago. Though the obstruction was complete for at least six days her condition never became extremely bad. Distension slightly progressed from the third to the fifth day, but was never great. She did not suffer from shock. The pulse remained fairly strong for an old woman. The tongue was dry but not brown. Vomiting was never fæcal; incessant at first it latterly diminished in frequency, and she always sat up to vomit. These considerations would probably have induced the most ardent laparotomist to pursue an expectant treatment, even if the age and surroundings of the patient had not been such as to contra-indicate operative interference.

Ryburgh, Fakenham, Norfolk.

A MISHAP WITH CARBOLIC ACID.

BY C. H. L. JOHNSTON, M.D., L.R.C.S. EDIN.

AN inebriate, whose family I have attended for many years, being on one of his periodical outbreaks, returned home in the early afternoon very much intoxicated. After a time, being thirsty, he looked about for something to drink and seeing a bottle filled with what he judged to be lager beer put the bottle to his mouth and drank the contents. The bottle contained an ounce of carbolic acid in liquid form, or 90 per cent. of the pure acid, mixed with several ounces of paraffin oil, such as is used for illuminating purposes and which the women of the family were using in a sanitary way. When it was discovered what he had done his friends gave him mustard and warm water and sent for me. I saw the man soon after, when he was vomiting and had evidently got rid of the poison. There was no erosion of the lips, mouth, or throat, and he recovered without a bad symptom. Possibly the paraffin oil may have modified the effects of the acid.

St. John, New Brunswick.

NOTE ON SIMULTANEOUS EXCISION OF BOTH MAMMÆ, WITH AXILLARY GLANDS, FOR CANCER.

BY HERBERT SNOW, M.D. LOND., &C.,
SENIOR ACTING SURGEON TO THE CANCER HOSPITAL.

A PATIENT, aged 41 years, with one child, consulted me on April 3rd, 1900, for a tumour of the right mamma. She was a spare but very healthy-looking woman who lived in the country and had never previously experienced a day's illness. The organ formed a hard prominent mass as large as an orange; it was freely mobile on the fascia, though becoming adherent to the skin. The axillary glands were slightly enlarged. The usual casual darts of lancinating pain were becoming more frequent. The left breast was not complained of, but examination showed this also to be occupied by a hard atrophic scirrhous deposit around the root of the nipple which was somewhat retracted. The duration-time could not be ascertained. The left axilla contained a cluster of hard glands as large as beans. Both mammæ were removed and both axillæ were completely evacuated on the 7th. No shock or other untoward symptom followed. Perfect union had taken place by the 23rd and the patient went home to all appearance quite well on the 26th. The only suspicious indication then was a slightly enhanced prominence of the sternum in its upper third, suggestive of marrow infection per the residual thymus.

Remarks.—Excision of both mammæ for cancer, even when feasible, is rarely justifiable, whether it be performed at one sitting or in two stages separated by a long interval. The secondarily infected organ hardly ever betrays its condition without concurrent physical signs of extensive visceral deposit due to general blood contamination and negativing all operative procedures. An indication of the fact that the second mamma, even after the lapse of years, derives its infection from the first is to be found in the point, not I think generally recognised, that the glands in its corresponding axilla enlarge before and not after the discovery of the mammary "lump." Here, however, the excellent physical health of the patient, the absence of any sign of visceral deposit, the mobility of both the organs, and the differing characteristics of the carcinomatous growths in each—one protuberant, the other shrunken and withered—rendered the case unique in my experience, and seemed to indicate the double operation, though only as a preliminary to medicinal treatment.

Gloucester-place, W.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tam aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KING'S COLLEGE HOSPITAL.

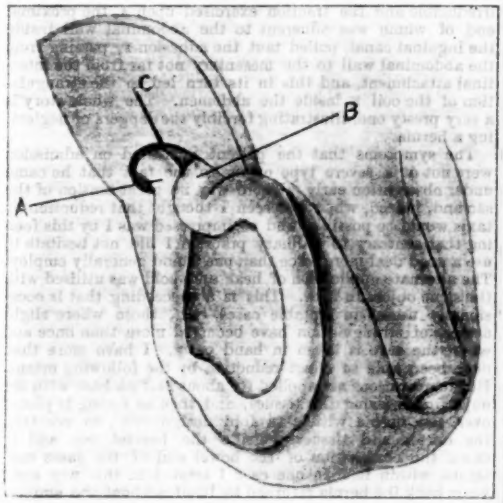
A CASE OF COMBINED EXTERNAL AND INTERNAL STRANGULATION.

(Under the care of Mr. ALBERT CARLESS.)

A MAN, aged 49 years, was admitted into King's College Hospital on Oct. 12th. He had tramped up from the country where he had been hop picking and had partaken of very little food for 48 hours, being in a semi-starving condition. He had been the subject of an inguinal hernia on the right side for some years, but had taken no care of it. On the morning of admission the rupture had become suddenly larger, and he had been quite unable to reduce it. He was in great pain, but there had been no vomiting. On examination a large inguinal hernia was found to occupy the right side of the scrotum; it was not especially tense, but was very tender, and looked dusky, hot, and inflamed. An attempt to reduce it was made, but without success; as it was not very tense and and as no vomiting was present, the scrotum was fomented for a quarter of an hour and then an icebag was applied whilst the other out-patients were being seen. At the end of a couple of hours taxis was again attempted, but without result. He was now admitted and after being thoroughly bathed was anæsthetised and operated on. The A.C.E. mixture was employed as the patient was in a very feeble and weak condition.

A five-inch incision was made over the upper part of the swelling so as to expose the inguinal canal as well as the upper part of the sac, which was freed to some extent from its surroundings. On opening it two or three ounces of

FIG. 1.



Condition of affairs seen after opening the sac and dividing the constriction at the neck. A, Distal end of strangled coil of intestine adherent to B, kink at proximal end of exposed coil. C, Line of incision in internal oblique and transversalis.

blood-stained fluid escaped and a coil of small intestine about 12 inches in length was found within. The gut was very congested and in parts showed signs of ecchymosis into the walls, evidently as the result of the taxis, but there were no loss of polish, no smell, and no absolute evidence of gangrene. A hernia director was passed under the constriction at the neck of the sac and this was then nicked in two places by a hernia knife to a sufficient extent to relieve the strangulation. It was then found that the outer end of the coil of intestine (Fig. 1, A) could be drawn down easily and healthy gut was reached above, but the inner limb (Fig. 1, B) could neither be pushed back nor drawn down, and on careful attention being directed to it, it was obvious that there was here some abnormal condition, the nature of which was not at once evident. To clear up the doubt as to the condition of affairs a free incision was made upwards and slightly outwards through the whole thickness of the abdominal wall (Fig. 1, C). On dragging upon the inner limb, B, another large coil of gut, at least a foot in length, was at once pulled up and found to be also in a condition of strangulation, and the condition of affairs now demonstrated was roughly that shown in Fig. 2, although it has been impossible to reproduce quite accurately the complicated arrangement really present. It will be seen that at B, which represents the upper

FIG. 2.

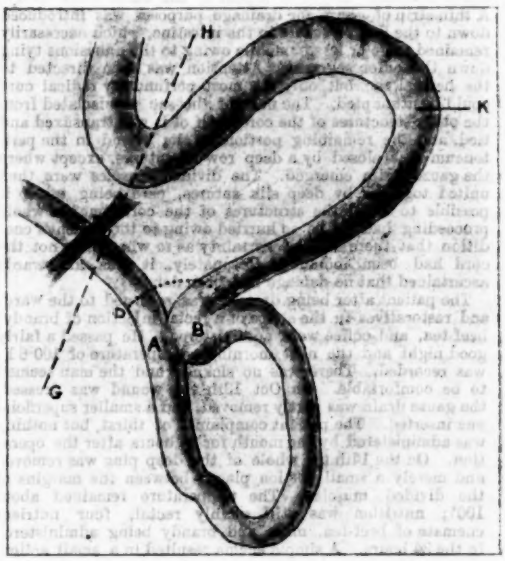


Diagram of condition of affairs seen on opening up abdomen. A, B as in Fig. 1. DE, Site of strangulation in inguinal canal. F, Cicatricial band causing strangulation of coil B. GH, Limits of enterectomy.

limit of the portion present in the hernial sac, there was a sharp kink of the intestine due to the close adhesion of two coils to each other. It was also found that the coil B was attached tolerably firmly to the outer segment A close to the point of strangulation, D E, although this could not be made out until the further incision of the abdominal wall. The loop of gut, K, which had been strangled inside the abdomen, was much distended and the cause of strangulation consisted in a cicatricial band, F, which stretched from the inner surface of the abdominal parietes close to the internal abdominal ring to the mesentery of the affected coil. This band was divided and it was also found possible to separate the coil B from its attachment to A. The kink, however, persisted and was a very sharp one, and inasmuch as there were two raw surfaces of some extent left on both A and B, and as they were likely, or rather certain, to form fresh adhesions inside if they were returned, it was decided that the best practice would consist in total removal of the whole of the intestine that had been strangled, especially as it was somewhat bruised and looked doubtful—that is to say, as if at a later date bacterial infection and possibly gangrene might supervene.

Enterectomy was accordingly performed and the whole coil, more than two feet in length, was removed. The vessels in the mesentery were first secured well back so as to control the main blood-supply to it and then the smaller

spots that spurted were tied separately; in this way some time was saved, as very few ligatures were required. India-rubber tubing passed through the attachment of the mesentery and tied around the gut was utilised instead of metal intestinal clamps. It was found on cutting the intestines across that they contained very little, if any, fæcal material, and hence the clamps were removed early, as they were rather inconvenient since the gut just above the point of resection on the outer side—i.e., near D—was adherent to the abdominal wall and there was not too much tissue to spare. By this time the patient was in a somewhat alarming condition and in order to keep him alive hypodermic injections of strychnine, brandy, and ether had to be resorted to, whilst his head was kept low. Union between the divided segments had to be undertaken as rapidly as possible and therefore a Murphy's button was utilised. The two ends were very unequal in section, the inner being much the larger, and it was found that when the button had been introduced and closed in the usual way a small portion of mucous membrane from the inner segment could be seen. It was therefore tucked in as far as possible and a row of Halsted stitches was inserted all round which rendered the outer aspect of the union satisfactory. A thin strip of gauze for drainage purposes was introduced down to the line of suture in the intestine, which necessarily remained more or less immobile owing to the adhesions tying down the outer segment. Attention was then directed to the hernial sac, but only the most perfunctory radical cure could be attempted. The neck of the sac was isolated from the other structures of the cord, half of it was transfixed and tied, and the remaining portion of the wound in the peritoneum was closed by a deep row of sutures, except where the gauze drain emerged. The divided muscles were then united together by deep silk sutures, care being taken if possible to avoid the structures of the cord, but the whole proceeding had to be so hurried owing to the patient's condition that there was no certainty as to whether or not the cord had been included; fortunately, it was afterwards ascertained that no damage had been done.

The patient after being dressed was returned to the ward, and restoratives in the shape of a rectal injection of brandy, beef-tea, and coffee were administered. He passed a fairly good night and the next morning a temperature of 100·6 F. was recorded. There was no sickness and the man seemed to be comfortable. On Oct. 13th the wound was dressed, the gauze drain was partly removed, and a smaller superficial one inserted. The patient complained of thirst, but nothing was administered by the mouth for 24 hours after the operation. On the 14th the whole of the deep plug was removed and merely a small portion placed between the margins of the divided muscles. The temperature remained about 100°; nutrition was still mainly rectal, four nutrient enemata of beef-tea, milk, and brandy being administered in the 24 hours. A simple enema resulted in a small action. On the 15th the plug was entirely omitted and there was practically no discharge from the wound. Only one enema was given and stomach feeding was commenced. After this date the patient did uninterruptedly well, although his temperature remained about 100° till the 19th. He remained very constipated and required simple enemata every day till the 29th, and then as the button had not appeared cascara tabloids were employed every other night. He was discharged from the hospital on Nov. 15th, not having yet passed the button. However, he appeared in the out-patient room about the end of November and brought the button in his hand, having passed it a day or two before, after retaining it for about six weeks. There was no impulse on coughing in the inguinal region and the hernia appeared to be satisfactorily cured. The testis was of normal size and showed that the cord had not been included in the stitches.

Remarks by Mr. CARLESS.—Cases of external strangulated hernia are so common that records of individual cases are of but little value although there are still moot points requiring settlement, such as the best way of dealing with gangrene of the gut. Internal hernia is also by no means uncommon, but here the multiplicity of causes to which it may be due and the resulting variability of the symptoms render the records of single cases desirable if there is anything special or peculiar about them. The combination, however, of internal strangulation with external such as occurred in the above case is unusual in the extreme, if not unique, and it seems desirable that a full account of it should be given.

It was evident from the condition found at the operation, even apart from the patient's history, that the hernia had been present for some time, and that probably as a result of truss-pressure or previous slighter attacks of strangulation, from which he had recovered without operation, plastic peritonitis had occurred which not only fixed the coil A to the peritoneum lining the iliac fossa, but had also produced the band F and had caused the kink B to be formed and led to its adhesion to A.

The occurrence of a slight plastic peritonitis after the relief of strangulation is probably a constant phenomenon, and is the more likely to occur where prolonged paresis of the bowel is maintained by the use of opium. The breaking through of these adhesions sometimes occurs naturally at the time when the bowels first begin to move freely, and may then give rise to intense and sudden pain and to such profound shock as to lead one to suppose that perforation had taken place. Some years back a case of this nature occurred to me. I had operated on a woman for strangulated inguinal hernia quite successfully; the bowel was congested, but not badly damaged, and was returned at once and a radical cure undertaken. A little morphia was given to relieve pain, and the case went on perfectly well till about the seventh day, when suddenly and without warning the most intense pain was experienced in the abdomen, whilst the patient became pale and collapsed. When I saw the patient a few hours later it seemed at first glance evidently a case of perforation and incipient peritonitis, but on more carefully examining the condition of affairs I came to the conclusion that it was merely due to the onset of peristalsis, sufficiently vigorous to herald an action of the bowels, and to the forcible separation of coils of intestine which had become "glued" together. Under these circumstances I recommended a good dose of castor oil guarded by a little laudanum, and after some more pain of a colicky character a good action of the bowels resulted, and there was subsequently no difficulty in this matter.

In the case here recorded it is quite easy to understand that all the contributory lesions might have resulted from plastic peritonitis following a previous attack of strangulation from which the patient had recovered. Subsequently no care was taken of his hernia, and under ordinary circumstances the only portion of bowel which descended into the sac was the loop first found there—viz., that below the adherent coils A and B. As the result of some unusual effort the kinked and adherent coil B was forced into the sac through the narrow inguinal canal and there became strangulated. The distension of the loop which followed made it irreducible and the traction exercised upon A, the proximal end of which was adherent to the abdominal wall inside the inguinal canal, pulled taut the adhesion F, passing from the abdominal wall to the mesentery not far from the intestinal attachment, and this in its turn led to the strangulation of the coil K inside the abdomen. The whole story is a very pretty one, illustrating forcibly the dangers of neglecting a hernia.

The symptoms that the patient presented on admission were not of a severe type owing to the fact that he came under observation early. There was no great tension of the sac and, indeed, when first seen I thought that reduction by taxis would be possible, and so impressed was I by this feeling that contrary to ordinary practice I did not hesitate to use a good deal more force than one would generally employ. The alternate application of heat and cold was utilised with the same object in view. This is a proceeding that is occasionally useful in suitable cases—viz., those where slight attacks of strangulation have occurred more than once and where the case is taken in hand early. I have more than once been able to effect reduction by the following means. Hot fomentations are applied for about half an hour with the object of relaxing the tissues, and then an icebag is placed over the hernia with a twofold design—viz., to constrict the dartos and tissues outside the hernial sac and to cause the contraction of the bowel and of the gases contained within it. In one case I treated in this way some years back the hernia returned by itself without the employment of any taxis. It is, however, abundantly evident that no such proceeding could have had the slightest effect in the case under consideration, whilst the taxis which was subsequently employed had merely the effect of bruising the intestinal walls.

Another point illustrated by this case is the importance of examining the bowel above the site of strangulation. There is always the possibility that some abnormal condition may be present, and it should be considered an essential part of

the operation to draw down the gut on each side after dividing the stricture to ascertain that it is all right. In this instance I was practically forced to adopt this plan inasmuch as it was impossible to reduce the intestine even after a tolerably free division of the constricting band of fibrous tissue in the inguinal region. The direction in which a free incision should be made in order to open up the abdomen is not unimportant. As far as possible it should be made through muscular fibres—i.e., upwards and outwards. In an oblique hernia the epigastric artery is thus avoided, and one may look forward confidently to efficient union of the tissues without any subsequent tendency to hernial bulging.

The question as to what would be best to do after relieving the strangulation was a serious one. The patient's condition was one of urgent danger from collapse; his pulse could scarcely be felt and his breathing once or twice nearly ceased, and yet it seemed the height of folly merely to reduce the affected coils into the abdominal cavity once again without attempting some means whereby further trouble could be obviated. Even after dividing the adhesion F and separating the kinked coil B from A there were manifest sources of danger: (1) the kink B remained, and would always have been capable of reproducing symptoms of obstruction; (2) the raw surfaces between A and B were certain to lead to adhesions which would at some future time cause trouble; and (3) there was considerable likelihood of acute peritonitis developing within a few hours owing to the fact that the taxis had caused bruising of the gut wall, whilst the upper coil K was also in a very doubtful condition. I felt then that bold and rapid surgery was the best means of dealing with the condition of affairs and seeing that an enterectomy need not take many minutes, if one utilises a Murphy's button and secures the mesenteric vessels far back in the mesentery, this course was decided on, and the result fully justified the decision.

There has been much discussion for many years as to the best way of dealing with gangrenous hernia, but of late opinions seem to have been taking very definite shape in favour of enterectomy. Personally I should like to add my testimony in favour of this course. The experience of this condition gained by any one surgeon cannot be very great, and it is only by comparing and collating the experience of the many that we can come to a right conclusion as to the best treatment to adopt. My own experience is certainly in favour of resection of all gangrenous tissue, even in cases where the general condition of the individual seems to preclude all such measures. In nearly every case of gangrenous hernia which I have seen where an attempt has been made to establish an artificial anus, and some of these were apparently favourable cases with comparatively little toxæmia, death resulted. This was due to two main causes—viz., the difficulty often experienced in emptying the bowel, owing to the contraction and adhesion of the tissues around the neck of the sac, free separation of which might involve the onset of peritonitis, and the absorption of virulently toxic material from the gangrenous bowel wall itself, to my mind a much more serious matter than the absorption of toxins from the retained fæces. The only rational treatment is obviously the removal of the whole of the gangrenous part, and the resection should be sufficiently wide of the affected coil to make certain that no damaged tissue is left behind. Present-day methods of enterorrhaphy are so rapid that it certainly seems desirable to treat cases in this way. Murphy's button or some similar contrivance may be utilised rather than trusting merely to stitching, and in this way not only is the diseased area of gut wall eliminated, and therefore the supply of toxins to the system diminished, but intestinal paresis may be avoided and the activity of the bowels early restored. Of course, there will be always a considerable mortality associated with this operation, owing to the fact that the cases come under treatment too late, but if it is clearly understood that enterectomy is the correct method of treatment of gangrenous hernia then it may be hoped that in time we may see some reduction in the terrible figures which still represent the death-rate of this serious affection.

TOTNES COTTAGE HOSPITAL.—The corner stone of the new Cottage Hospital at Totnes was laid on May 3rd by the Mayor (Mr. Windeatt), who was supported by Dr. G. J. Gibson, the ex-Mayor. The site has been given by the Duke of Somerset and the cost of the building is estimated at £2200.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Wounded in the Present War.

A MEETING of this society was held on May 8th, Dr. FREDERICK W. PAVY, the President, being in the chair.

Mr. FREDERICK TREVES gave an address on the Wounded in the Present War. He commenced by saying that it was not possible for several reasons to deal with the subject in the scientific manner which was usual in communications made at that society. He then gave a brief description of the modern rifles in use. The great differences between old and new weapons consisted in the high velocity and greater range of the latter. Measured by the amount of damage they would do modern weapons were not as effective as the older ones, for under certain conditions a Mauser or Lee-Metford bullet would pass quite through a man and even traverse some of the most vital organs, not only without killing him, but without resulting in any serious mischief. Immense advances had been made within the last few years in small arms. The rifling of the barrel of the Martini-Henry rifle made one turn in 22 inches, that of the Lee-Metford one in 10, and that of the Mauser one in eight and a half. The question of the muzzle velocities of these weapons was discussed and the different bullets were described and illustrated by means of specimens and lantern slides. The bullet consisted of lead hardened by the addition of 2 per cent. of antimony and enclosed in a shell or thimble of nickel. The shell of the Mauser bullet was a trifle thicker at the point than elsewhere. The Lee-Metford shell was of uniform thickness, and being slightly thinner than the Mauser, was apt to do a little more damage by scattering when it touched a solid object. The very remarkable effects which could be produced by the modern bullet were well illustrated by a Lee-Metford cartridge, which was exhibited, and which had been pierced while in the belt of a British soldier by a Mauser bullet; this had afterwards entered the man's abdomen and passed out at his buttock without producing any symptoms whatever. Mr. Treves had met with many cases of nerve trunks pierced and bones perforated, as if by a small gimlet, by Mauser bullets. In one case the bullet had pierced the middle phalanx of both the ring and little fingers and yet the patient recovered with a practically perfect hand. There were many statements in current text-books which were not borne out by the experience of the present war. For instance, it was commonly asserted that the mechanical power of a bullet was represented by the product of mass into the square of velocity; and it followed from this that the question of range was the all-important one. But this formula could now be proved to be wrong. It was very difficult to ascertain the range at which a man was hit, not only because of the smokeless powder now used, but in many of the recent battles men were exposed to a crossfire and they did not know from which direction they were hit. Turning to the subject of the explosive effects of bullets there was no such thing as a really explosive bullet, but if the end was uncovered it splintered and pulverised the bones. In this way funnel-shaped wounds were produced, the entrance hole being small and circular and the exit large and jagged. The production of such a wound was not a question of range, though he (Mr. Treves) was bound to say that the wounds he had seen produced at undoubtedly short ranges had been mostly clear and round. Specimens of "soft-nosed" (the so-called "explosive") bullet were shown. The nickel casing was cut away at the top and the lead was not hardened by antimony. These bullets produced jagged, funnel-shaped wounds. He had not met with any wounds produced by these "soft-nosed" bullets until towards the end of the Ladysmith siege. At that period of the war quite 10 per cent. of the wounds had been produced by these soft-nosed bullets. Some of the lay papers had asserted that poisoned bullets were in use among the Boers and some which he (Mr. Treves) had found, and which he exhibited, had evidently been dipped in something which imparted to them a bright green colour. It had been suggested that this was verdigris, but analysis showed it to consist of paraffin, the colour being due to oxide of nickel derived from the

shell of the bullet. The paraffin was used to prevent the barrel from fouling. Pieces of common shell fired by the 4·7 inch guns, pieces of, and bullets from, shrapnel, and the base of a shell fired by the "Long Tom" of the Boers were exhibited. Shrapnel contained from 150 to 200 bullets and on bursting these latter only assumed the velocity of the shell. Pieces of shrapnel made very clean holes and a soldier's water-bottle so pierced was exhibited. Lyddite, which was a picric acid explosive, had not the terrible effects ascribed to it. Bursting on well-made ground, such as a railway embankment, a lyddite shell made a round hole of only moderate dimensions. It emitted dense yellow fumes which it was hardly possible to support, and several Boers suffering from concussion without any mark of injury had been admitted to hospital. The field hospital with General Buller's force was next described. Each soldier carried a piece of primary dressing which was very useful. Turning again to the character of wounds he (Mr. Treves) had never found pieces of felting carried into the wound as they used to be with the older rifles. In about 20 per cent. of the wounds produced by Mauser rifles the bullet was retained. A circular exit wound was rare when a bone was struck. The largest exit wounds were those produced at the shortest range. Hæmorrhage was rare. Tourniquets were very rarely wanted, but when required were readily improvised by soldiers and sailors, the strangest contrivance he had met with having been a plug of tobacco and the tape of a puttee. Internal bleeding was not uncommon in abdominal wounds at short range. There were many statements in the current text-books on gunshot injuries which could not be substantiated by the experience of the present war. For example, the fractures were not invariably oblique; the majority produced by Mauser bullets were transverse. Many other statements as to fractures would also require modification. The worst kind of bone injury were those in the head of the humerus and in the lower end of the fibula. In the present war the worst element in the treatment of fractures was the long or difficult transport. Compound fractures did very well when retained in the field hospital for a time, and there was an immense advantage in having a large field hospital immediately behind the fighting line. As regards gunshot injuries of the head, these, as a rule, required operation. As far as his observation went the majority of those who were killed on the spot were shot through the head, though there were many very wonderful recoveries. The present campaign had revealed several very striking facts as regards abdominal injuries and two in particular might be mentioned—viz.: (1) the proportion that recovered without operation was very high; and (2) the operative treatment of abdominal injuries on the field was most discouraging, however promptly the operation might be performed. In his (Mr. Treves's) belief 60 per cent. recovered without any operation and therefore the risk to life if they were not interfered with was only 40 per cent. One of the reasons why they got well without operation was that the men were generally wounded when fasting. The question of transport was here, again, a most important one. Within a few hours after Spion Kop 33 cases among the wounded brought down from that inaccessible situation died. Four remarkable cases of recovery after abdominal gunshot wounds were mentioned. The bullet in the first entered beside the umbilicus and came out at the second lumbar vertebra; in the second it entered at the anterior part of one loin and came out at the other; in the third it entered over the stomach and came out at the right loin; and in the fourth it entered at the tip of the eleventh rib and came out at the axilla. In all of these there were no more symptoms than would be produced by eating green apples. The hole in the bowel produced by a Mauser bullet was very minute and the shock of the injury appeared to stop peristalsis. The cases which did worst were those associated with copious internal hæmorrhage. The reasons why operation cases did so badly were referred to. The circumstances which indicated operative procedure in abdominal gunshot wounds were as follows: (1) when the case was seen within seven hours after the injury; (2) when the transport was short and easy; (3) in the case of antero-posterior wounds above the umbilicus when the bullet had escaped; (4) when there was extensive hæmorrhage; and (5) some wounds below the umbilicus with escapement of the bullet, especially if hæmorrhage had occurred. On the other hand, operation was contra-indicated: (1) if the case was not seen until more than about seven hours had elapsed; (2) when the transport had been long and arduous; (3) in transverse and oblique wounds above the level of the umbilicus; (4) in all cases of retained bullet; (5) in all wounds involving the liver and right kidney, because these recovered; and also (6) in most cases of wound below the umbilicus, because these also generally got well. These were the chief indications for and against operation; and in point of fact the cases suitable for immediate operation on the field were extremely few. The difficulties in performing abdominal section in these circumstances were very great.

Surgeon-General JAMES JAMESON, C.B. (Director-General, A.M.S.), thanked Mr. Treves for his address, with the conclusions of which he concurred. He wished especially to emphasise the necessity of a hospital immediately behind the field hospital. This was not always possible, but its advantages were very great. After 600 miles of railway travelling nearly every case, according to Dr. Stevenson, became septic. Cases should be kept at rest for ten days or so and then they could travel with perfect safety and arrived in excellent condition. Referring to the two plagues which Mr. Treves was reported to have mentioned elsewhere his words had already borne fruit, for he was informed that the engineers had encircled the hospital containing cases of enteric fever with barbed wire.

The PRESIDENT moved a vote of thanks to Mr. Treves for his address and announced that the debate would be resumed that day fortnight.

PATHOLOGICAL SOCIETY OF LONDON.

The Changes in the Blood in Disease.

A MEETING of this society was held on May 1st, Mr. A. PEARCE GOULD, Acting President, being in the chair.

Professor WRIGHT (Netley) resumed the discussion on the Changes in the Blood in Disease. He commenced by saying that he did not think much profit was to be derived from a mere enumeration of the red or white blood cells. An examination of the bacteria might be useful, but there were not many diseases, at least in England, in which bacteria occurred in the blood. Some of Ehrlich's suggestions were valuable, as, for instance, the occurrence of nucleated red cells in pernicious anæmia and the significance of myelocytes and normoblasts, but, after all, were there any diseases in which an examination of blood made by current methods was of really great diagnostic or prognostic value apart from other symptoms? Some years ago he examined the blood of a large number of cases of hæmophilia and came to the conclusion that the significant change in these cases was an alteration in the percentage of polynuclear white cells. A large number of these cases were children, and then he found afterwards that there were rarely more than 40 per cent. of such cells in the blood of children at seven years of age, and therefore all his results were vitiated. New methods were very much wanted for the examination of the blood and there were some recent cases which he wished were more widely known. The first and in his belief the most important matter concerning the blood was the question of its coagulability, and he then described the method for its estimation. Above all other considerations this subject was one of the highest importance. Take, for instance, the question of hæmoptysis. In phthisis the coagulability was very much reduced and the proper method of treatment was to raise the coagulability. It was desirable that medical men should make observations and see if the conditions which they wished produced had been achieved. In aneurysm, for example, it was desirable to raise the coagulability of the blood. A starvation dietary had been suggested for this end, but in starvation the coagulability went down and after a good meal it went up. In short, his observations went to show that short of producing marasmus starvation did not increase coagulability and was therefore of no use. The time of coagulability was altered considerably in different diseases and under different conditions from two or three minutes to one and a half hours or more, and this seemed to depend chiefly upon the quantity of calcium salts in the blood. The eating of acid fruits diminished coagulability and sometimes gave rise to what he called "serous hæmorrhages," resulting in the production of urticaria, œdema, &c. A method for the estimation of the lime salts in the blood was described. It was upon the presence of these that coagulability largely depended. When lime salts

were added it was increased and when they were extracted, as, for instance, by taking vegetable acids, the coagulability was diminished. Professor Wright had found that the lime salts were diminished in some cases of urticaria. Another factor which increased or diminished the coagulability was the increase or diminution of white cells. A case was mentioned in which the administration of thymus tabloids produced an increase in the polynuclear white corpuscles and a disappearance of the urticaria. The alkalinity of the blood was another point which ought to be investigated and a case was mentioned which was believed to have been fatal by the acidity of the blood, an acid intoxication such as had been met with in rabbits. A promising field was the investigation of the agglutinins in the blood, which had a very special bearing on prognosis. In Malta fever, for instance, if a man developed agglutinin slowly it would probably be a prolonged case, and *vice versâ*. If after an attack of this disease or typhoid fever the agglutinin was high the patient would probably not have a relapse, but if low there seemed a liability to relapse.

Dr. LORRAIN SMITH said that he would confine his remarks to the subject of anæmia. He had made a series of laborious examinations on the measurement of the total volume of blood, on the oxygen capacity of the blood, and the total amount of hæmoglobin, per unit of weight to the individual. In the first place, the saturating effect must be determined of a known volume of carbon monoxide administered to the patient. This enabled him to estimate the capacity of the whole blood for carbon monoxide and consequently for oxygen. At the same time a given volume of the patient's blood was compared as regards colour with a similar volume of ox blood whose capacity for oxygen per unit of volume was known. By these means he had been able to calculate the volume of the whole blood. The oxygen capacity varied much less than the volume of blood amongst healthy subjects. The study of anæmia on this method showed that there were two types: (1) that of chlorosis, in which the total oxygen capacity was approximately normal, while the volume was increased; and (2) the anæmia of hæmorrhage, in which there was loss of oxygen capacity—i.e., of hæmoglobin. The cases of pernicious anæmia examined conformed to the latter type. As regards chlorosis it was obvious that in the blood there was a large increase in the number of red corpuscles and of leucocytes. Cases occurred in which the red corpuscles numbered about 3,000,000, the white corpuscles from 4000 to 5000, while the volume was as large as from two to three times the normal amount. A reduction of such a blood to normal volume would lead to a rise of corpuscles per cubic millimetre to 7,000,000 or 8,000,000 and the white corpuscles to a correspondingly large number. Such changes have been observed by Hayem and others during the cure of chlorosis. There was no evidence that the curative effects of iron were due to the formation of an increased amount of hæmoglobin. It was clear, also, that many of the symptoms of anæmia were due to the increase in blood volume and that cure of the condition consisted in large measure in the reduction of the volume to its normal amount.

Dr. J. H. DRYSDALE remarked that the red and white cells varied independently of each other and he entered his protest against the prevailing practice of their comparative measurement. The question of importance was the absolute number of cells of each kind that was present. Percentages were, as a general rule, of no value. The blood from the periphery differed from that of the centre of the body and this was another source of fallacy. In tumour of the spleen he had found an increase in the number of eosinophile cells. Ehrlich had well stated that the advance of hæmatology must come, not from the physiologist or the anatomist, but from the clinical physician.

Dr. WILLIAM HUNTER took exception to Professor Wright's remarks about the estimation of the corpuscles. The coagulation of blood was an important matter but other features were of equal value. There were three great groups of factors in the causation of blood changes: (1) injury; (2) nutritional or assimilative changes; and (3) infective agencies. He regarded the third as the most important. The changes due to the first and second were essentially quantitative. The most important changes in the blood were the hæmolytic changes, such as were seen especially in hæmolytic or pernicious anæmia. Clinically this disease was almost identical with chlorosis, but an examination of the blood changes showed differences of the most extreme kind. Some of these changes he then demonstrated by the lantern, especially the process of hæmolysis in red cells, where the oozing out of the stroma and hæmoglobin took place in every direction. This change took place normally in the portal blood, but not in any other blood or in any other disease than pernicious anæmia.

Dr. ARTHUR WHITFIELD said that he had worked at the blood from the morphological standpoint only and he thought that perhaps hardly sufficient credit was given to the work of Professor Ehrlich and Professor Muir in this respect. He considered that Professor Ehrlich's work on differential stains must be regarded as the foundation of all the present knowledge of the morphology of the leucocyte. The position of the myelocyte had somewhat altered with regard to its clinical significance of late years. When first described he believed that its presence in the blood was considered to be pathognomonic of leukæmia, but further researches had shown that it was also to be found in small numbers in other diseases. After a fairly large experience in examining films of diseased blood Dr. Whitfield could only support Professor Muir's statement that the eosinophile myelocyte was confined to leukæmia. With the discovery of eosinophilia in pemphigus by Gollasch, and subsequently in dermatitis herpetiformis by Leredde and Perrin, a great importance was attached to the presence of eosinophilia in skin diseases, and Leredde had gone so far as to state that the simultaneous presence of eosinophilia in the blood and serum of the bullæ was diagnostic of dermatitis herpetiformis. In most cases of widespread skin disease there was a polynuclear leucocytosis present, but even this was by no means invariable. More interesting was the fact that in three cases (pityriasis rubra pilaris, eczema, and psoriasis respectively) he had found varying numbers of mononucleated cells containing the ε or neutrophile granulation cells which would naturally be reckoned as myelocytes. He would rather like to refer to a piece of work done by Justus which was apparently little known in this country. This observer in examining the blood of persons suffering from syphilis found that in such persons the administration of mercury caused a sudden fall in the hæmoglobin succeeded by a steady rise to the normal as the remedial action of the drug took effect. This sudden fall was not observed in healthy subjects and could therefore be used to aid in the diagnosis. The statements made by Justus had, he thought, been corroborated by everyone who had controlled them and the method seemed to have a real value.

The following card specimens were exhibited:—

Dr. CHARLES D. GREEN: A case of Chronic Mastitis removed from a Male Subject.

Mr. A. CORRIE KEEP: Colloid Carcinoma of the Breast.

Mr. JOHN POLAND: Compound Dislocation of the Elbow-joint.

Dr. F. PARKES WEBER: A Constricted and Furrowed Liver, a condition occurring sometimes in Emphysema.

OBSTETRICAL SOCIETY OF LONDON.

The Relations of Organic Affections of the Heart to Fibro-myoma of the Uterus.—Exhibition of Specimens.

A MEETING of this society was held on May 2nd, Mr. ALBAN DORAN, the President, being in the chair.

Dr. THOMAS WILSON of Birmingham read a paper on the Relations of Organic Affections of the Heart to Fibro-myoma of the Uterus. He called attention to the necessity for observing the possible evil effects produced on the other organs of the body by the growth of the uterine fibro-myomata. He showed that the conjunction of serious organic affections of the heart with the presence of a fibroid was sometimes casual, but in a much larger number of cases the connexion between the diseases of the two organs was causal, the heart affection being set up by the growth of the fibroid, or both being dependent on a common cause. Occasionally the heart might be affected directly by the pressure of a large cystic fibroid or indirectly by a tumour pressing on the ureters and so leading to renal degeneration, which in its turn led to cardiac changes. Much more commonly a fibroid of moderate size led through menorrhagia to anæmia, and thus to cardiac dilatation or degeneration; or, again, in the early stages of the growth of a tumour cardiac hypertrophy might be found, and this latter might give place to dilatation and

degeneration. It was not at present understood how the hypertrophy was brought about, but the condition was in some degree analogous to the enlargement of the heart found in pregnant women; there was the important difference, however, that the causing affection, pregnancy, in the latter case was definite in duration whereas the period of active growth of a fibroid was indefinite. He described the case of a patient who had an interstitial fibroid for four and a half years; there had been several attacks of retention of urine, and the symptoms of cardiac weakness were decidedly increased by ergot. Double oöphorectomy was performed, and was followed by alarming heart failure lasting several days. The patient eventually made a good recovery and the condition of the heart showed a gradual but very marked improvement. Six other cases in which organic disease of the heart was apparently caused by the growth of fibroids were shortly related. The nature of the cardiac affection, the varieties of uterine fibroids which were present in the case, the cardiac symptoms and signs, and the course and prognosis were then in turn considered and it was pointed out that after a successful operation the heart tended to recover its tone in a really remarkable degree. The presence of the cardiac disease favoured the occurrence of thrombosis both before and after operation; it formed a contra-indication to the use of ergot in the treatment of the fibroid, and it might be an important and even urgent indication for operative interference. When an operation was undertaken every effort must be made to reduce as far as possible the severity of shock and the risk of subsequent heart failure, and ether should be the anæsthetic administered.

The PRESIDENT commended Dr. Wilson for his scientific treatment of a subject handled too empirically at present. He had himself frequently observed circulatory troubles, independently of anæmia, in patients with fibroid tumours. One patient was subject to attacks of syncope at every menstrual period for two years; three years ago he removed the tumour, as it was growing rapidly, with both ovaries. Since then no attacks of syncope had occurred. A year ago he removed a uterus with suppurating fibroid, leaving one ovary. The pulse, irregular before the operation, had been regular ever since. Chavannaz and Fieux of Bordeaux had recently reported a similar case in which, after removal of a fibroid uterus and both ovaries, the pulse, previously very intermittent, became and remained perfectly regular.

Dr. AMAND ROUTH recalled a case which proved the serious action of ergot in the cases under discussion. He had elevated a large impacted pelvic fibroid by hydrostatic pressure in a patient, aged 46 years. Her only symptoms had been due to pelvic pressure, and these were at once relieved. Her heart's action was feeble. Against his advice she took ergot in pills and soon became very weak and ill, and she stated that within an hour of taking a dose she had pains over the cardiac area, with breathlessness and palpitation. She was seen by Sir William Broadbent who stated that he found that her arteries were much tightened, and his previous experience of such cases enabled him to fix on the ergot as the cause of the heart trouble and of the pseudo-angina. The patient slowly improved when the drug was discontinued. Inasmuch as ergot was so generally given in cases of uterine fibroids he thought it not unlikely that unsuspected cardiac debility in such cases would be aggravated by the drug and would explain the asthenia which was not infrequent.

Dr. HERBERT SPENCER considered the paper a very valuable contribution to their knowledge of the effect of uterine fibroids on the organism. He thought that many of the symptoms of heart disease and the murmurs were due to the anæmia caused by the uterine hæmorrhage. Anæmia thus caused was an urgent indication for operation, especially in young subjects. It was remarkable how rapidly in some cases the symptoms disappeared and health was restored even after the removal of the ovaries only, the tumour remaining. He doubted whether fibroids often gave rise to hypertrophy of the heart. In pregnancy the heart was very frequently not hypertrophied.

Dr. G. F. BLACKER thought that there were considerable difficulties in determining the causal relationship between a fibroid tumour and organic heart disease. He wished to know upon what number of cases of fibroid tumour Dr. Wilson based his experience. With influenza so common and so often followed by cardiac mischief the previous histories of the cases under discussion were of great importance, for otherwise it would be difficult, in any given instance apart from cases of grave anæmia, to say that a dilated heart was due to the presence of a fibroid tumour. He also asked why Dr. Wilson thought that the presence of cardiac hypertrophy with a fibroid tumour was an indication for operation.

Dr. HEYWOOD SMITH, in reference to Dr. Spencer's view that hypertrophy and dilatation of the heart were probably due to the anæmia produced by the loss of blood, contended that it was more probably due to the heart having to overcome increased resistance caused by the extended area of circulation produced by the tumour, as well as the resistance through a tissue so unyielding as a fibrous tumour. In confirmation of this proposition he stated that Dr. Bedford Fenwick some years ago called attention to the fact that a similar hypertrophy and dilatation of the heart were to be observed in many cases of large ovarian cysts where a large increased area was added to the circulation, giving a greater stress of work to the heart.

Dr. WILSON, in reply, said that in the cases recorded in the paper the presence of fibroid tumours appeared to be the only probable exciting cause of the cardiac condition. In none of the patients was there a history of influenza or other of the common causes of derangement of the heart's action or nutrition; none of the patients were neurotic in the sense in which this term is generally applied. In many of the cases chronic anæmia seemed to be an important factor, but in several of the cases there was no anæmia. With regard to the relative frequency of heart affections in cases of fibroids Dr. Wilson was not in a position to give statistics at present.

The following specimens were shown:—

Dr. W. W. H. TATE: (1) Large Cervical Fibroid removed by Enucleation, followed by Vaginal Hysterectomy; and (2) Suppurating Ovarian Tumour Obstructing Labour, removed by Laparotomy.

Dr. P. HORROCKS: Fibroids of the Uterus with great Distension of the Fallopian Tubes (due to Tubercle).

Dr. C. HUBERT ROBERTS: (1) A Uterus with Cancer of the Cervix and (?) Adenoma of the Fundus, removed by Vaginal Hysterectomy; and (2) Myxoma of Chorion, expelled at the seventh month.

Dr. A. L. GALABIN: Double Pyosalpinx, inter-communicating.

Dr. H. RUSSELL ANDREWS: Imperforate Rectum with Prolapse of the Uterus and Vagina in a child one day old.

OPHTHALMOLOGICAL SOCIETY.

Opaque Nerve-fibres remote from the Disc degenerating after Neuritis.—Exhibition of Cases and Specimen.

A CLINICAL meeting of this society was held on May 3rd, Mr. G. ANDERSON CRITCHETT, the President, being in the chair.

Mr. E. NETTLESHIP read notes of two cases in which Opaque Nerve-fibres were seen with the ophthalmoscope, but these patches were separated from the disc by a considerable interval. He exhibited a drawing of one of the cases in which the condition was depicted at the time when it was first seen and when the patient had normal acuteness of vision. Another drawing taken three years later showed complete atrophy of the optic nerve in consequence of neuritis. The patch of opaque nerve-fibres could only just be seen, having undergone atrophy with the rest of the nerve.—Mr. ADAMS FROST had seen a similar case in which with atrophy of the optic nerve the opaque nerve-fibres had almost disappeared.—Mr. R. W. DOYNE mentioned a case which he had seen similar to those described by Mr. Nettleship in which optic neuritis came on. This subsided without causing atrophy of the nerve and the patch remained as before.

The PRESIDENT showed a boy for whom he had performed Optical Iridectomies for Lamellar Cataracts. In such cases in which the opacity was central and the vision much improved by dilating the pupil he much preferred this operation to that of removing the lens. After the operation the patient saw $\frac{6}{9}$ and J.1.

Dr. REGINALD BICKERTON showed an elderly woman whose Right Eye on Stooping became Proptosed. The sight was defective owing to old ulceration. Under ordinary circumstances there was no enophthalmos. There was a double

mitral murmur. In discussing the cause Dr. Bickerton thought that it was probably a vascular dilatation or else due to the too free communication between the orbital veins with the cavernous sinus (which had no valves).—Mr. DOYNE mentioned the case of a man, aged 25 years, who had suffered from a similar condition all his life. Without any obvious cause he suddenly got most severe proptosis with inflammatory signs in the orbit. These all subsided, but the eye became blind and there was no longer any tendency to proptosis.

Mr. H. E. JULER showed a case of Proptosis with Ophthalmoplegia Externa. Five years ago the patient had a similar attack in the same eye, but the sight was not impaired. The pain was severe but had subsided. Some proptosis and complete loss of movement persisted. The present attack began early this year. In March severe neuro-retinitis supervened. There was no definite history of syphilis or tubercle. Iodide of potassum had been given but without benefit. The diagnosis of an inflammatory growth intimately involving the optic nerve was probable.—Mr. W. M. BEAUMONT drew attention to what appeared to be a persistent pupillary membrane, and also to the high degree of hypermetropia, due, he thought, to the growth flattening the eyeball from before back.—Mr. NETTLESHIP gave it as his opinion that the retina was really raised by an intra-ocular growth extending from the optic nerve.

Dr. W. T. LISTER showed a case of Macular Coloboma associated with old Choroiditis. He thought that in this case the coloboma was of an inflammatory origin rather than developmental.—Mr. J. B. LAWFORD discussed the matter and was also inclined to look upon the origin as being inflammatory.

Mr. G. S. KEELING (for Mr. JULER) exhibited Dr. Emile Berger's Binocular and Stereoscopic Lenses. The instrument consisted of two decentred convex lenses inclined horizontally to each other. The advantages over a simple lens were said to be the better perception of relief and the fact that little or no accommodation was necessary.

Mr. TREACHER COLLINS showed a boy with a Congenital Notch in the Outer Part of each Lower Lid, with some want of development of the malar bone.

Mr. SYDNEY STEPHENSON showed a child with a Metallic Deposit on the Cornea which probably came about in the following manner. The patient had suffered from trachoma, and for its treatment the solid stick of pure nitrate of silver had been applied by a practitioner who had then washed the eye with sodium chloride. The cornea being abraded had got some chloride of silver deposited upon it.—The PRESIDENT thought that it might clear a good deal if left alone, and he suggested that nothing should be done in order to remove it under six months.

Dr. RAYNER BATTEN showed a girl with Congenitally Displaced Lenses who had also Aniridia and Glaucoma. She was quite blind in one eye and could only just perceive light in the other.

Mr. C. HIGGENS and Mr. A. W. ORMOND exhibited a specimen of a Spindle-celled Sarcoma of the Choroid which had been removed with the eye by Dr. Cole-Baker of Southsea in November, 1897. The patient is still alive and well with no sign of recurrence.

Mr. F. M. OGILVIE showed a patient who Shot himself with a Revolver in the Right Temple on Dec. 6th, 1899; the bullet did not emerge. He never lost consciousness, but the sight of the right eye was immediately lost, while that of the left became reduced. On Dec. 10th the right eye was excised, but it was found not to have been perforated as had been supposed, nor was the optic nerve cut. The vision of the left eye improved from less than $\frac{1}{60}$ to $\frac{6}{6}$ and J.4. Ophthalmoscopically the eye showed a very remarkable central lesion. The disc and vessels were normal, but at the macula was a slightly irregular oval area quite sharply defined and depressed below the surrounding fundus, looking almost as if a trephine had been applied and this part of the retina bodily removed, the depression amounting to 2D. The bullet was located with great exactness in the left orbit, almost in contact with the posterior and nasal sides. A number of very beautiful skiagrams taken by Mr. Mackenzie Davidson were shown illustrating this. Mr. Ogilvie concluded by calling attention to the comparatively small amount of damage done by the bullet in its passage through one orbit to the other.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Laminectomy for Paralysis.—Acticity of the Saliva in Diseased Conditions of the Body.—"Cross Infection" in Fever Hospitals.—Exhibition of Specimens.

THE seventh ordinary meeting of this society was held on May 2nd, Mr A. G. MILLER, the President, being in the chair.

Mr. J. M. COTTERILL showed a man on whom he had performed Laminectomy for Paralysis of Fully Two Years' Standing. The spinal caries began when the patient was 36 years of age and soon marked spinal troubles manifested themselves. The patient had been completely paralysed for six months previously to the operation both for motor and sensory functions. The sensory paralysis extended as far up as the anterior superior iliac spines. The deep reflexes were exaggerated and the superficial reflexes varied. There were two large bedsores on the buttocks as also a purulent cystitis and incontinence of urine and faeces. Mr. Cotterill first tried the effect of counter-extension for a few weeks but with only very slight improvement. The case being most unsatisfactory operation was decided upon. The laminæ of the eighth, ninth, and tenth dorsal vertebræ with their spines were removed. It was generally stated that the pressure on the spinal cord was not due to bone but to an abscess or granulation tissue which pressed on the cord. In this case as well as in two other similar cases Mr. Cotterill had found that there was marked bony pressure on the cord from exostoses springing from the spinal arch and from the posterior surfaces of the vertebral bodies. The canal was narrowed to such an extent as barely to allow the entrance of a slate pencil. Sixteen days after the operation the patient began to improve first as regards sensation and then motion. Now, a year after the operation, he could walk with the help of two sticks. He retained his urine and passed it normally and was still progressing. It was usually affirmed that cases of paralysis of so long standing were hopeless, but this case proved that such was not the case. At the operation no perceptible caries was found, the disease having evidently been recovered from.

Dr. W. G. AITCHISON ROBERTSON read a paper on the Activity of the Saliva in Diseased Conditions of the Body. He referred to the immense importance of the salivary secretion as an agent in digestion and stated that its potency was too frequently overlooked by those who studied questions of digestion. In order to eliminate the fallacy which might arise from the hourly variation in the diastatic power of the secretion the experiments were always performed at the same hour each evening. The individual was made to wash out his mouth thoroughly, and during the succeeding half hour all the saliva which he secreted was received into a vessel and measured. Two cubic centimetres of the saliva were then mixed with 10 cubic centimetres of starch mucilage at the temperature of 38°C., and the mixture was then kept at this temperature for 10 minutes. At the end of this period the condition of the starch present was noted and further action of the ferment was prevented by rapidly boiling the mixture. The amount of sugar which had been formed by the ptyalin was then estimated by titration against standard Fehling's solution. Above 100 cases of disease of various kinds were investigated in order to see if the activity of the salivary ferment had undergone any change. With regard to gastro-intestinal disorders, the average amount of sugar formed in these was 0·089 gramme (the normal average being taken as 0·080 gramme). In chronic gastric catarrh this figure varied from 0·078 to 0·1 gramme. In acid dyspepsia the amount of sugar formed was above the healthy average, while in ulceration of the stomach the amount was generally only slightly below the normal average. In dilatation of the stomach the salivary ferment was found to be almost absent or, at least, inactive. In cirrhosis of the liver the amount of sugar was not reduced and in some cases it was greatly increased. In pulmonary diseases generally the salivary ferment was fairly active and on an average 0·087 gramme of sugar was formed. In phthisis the ferment was present in normal amount and in pneumonia the amylolytic power of the saliva was above the normal during the period preceding the crisis but lower after the crisis. In the large group of heart cases the saliva retained its usual composition and the amount of

sugar formed hovered at or about the normal limits. With regard to nervous diseases, a larger proportion of subnormal cases occurred in this group, fully 41 per cent. giving a proportion of sugar lower than the normal average. In one case of cerebral tumour the saliva, though copious in amount, contained practically no ptyalin, whereas in a case of locomotor ataxy, though the secretion was equally copious, the saliva enzyme produced the large amount of 0·111 gramme. Of three cases of Addison's disease which were examined the saliva of two showed marked deficiency in diastatic power, while the third exceeded the normal limit. The group of diseases of the kidneys showed a lower average generally than the normal. In fully 55 per cent. the quantity of sugar produced was considerably below the average. In diabetes the saliva had a very active converting power, in three cases the amount of sugar formed being much above the standard figure. In simple anæmia the salivary ferment was present in normal amount; if, however, it were associated with dyspepsia the average was subnormal. In subacute and chronic rheumatism the ferment existed in its normal amount. In general febrile conditions the secretion of saliva was greatly reduced in amount and this reduction increased *pari passu* with the increase in temperature. This scanty secretion seemed, however, to possess an increased amylolytic power. As to the quantity of saliva secreted, in most cases of acid dyspepsia the amount secreted was above the normal. In chronic gastric catarrh the quantity was hardly up to the average and the same was seen in ulceration of the stomach. In cases associated with diarrhœa or ascites the secretion was often far below the normal. In bronchitis and in the early stage of pneumonia the salivary secretion was generally up to the full average and might even exceed it. In chronic phthisis the secretion of saliva was always very scanty. In heart affections of a grave character the secretion was almost constantly diminished. In affections of the spinal cord the amount of saliva secreted reached, and even surpassed, the average amount. In chronic Bright's disease, simple anæmia, chronic rheumatism, and in Addison's disease the amount of saliva secreted was subnormal. In fevers generally when the temperature was at all high the secretion was lessened, though its amylolytic power was increased. In many cases where the secretion was scanty the diastatic power was likewise feeble and, on the contrary, where the secretion was copious its proteolytic power was also great. A full appreciation of the amylolytic power of saliva was of the greatest importance when the dietetics of disease had to be considered. In cases where the salivary secretion was extremely scanty or even in abeyance, or when it contained practically no ptyalin, then ordinary starchy food must not be administered. If such foods be given the starch must first be rendered soluble by treatment with some artificial digestant agent, as extract of malt, taka-diastase, &c. Dr. Robertson advocated a more systematic examination of the saliva in all diseases of the gastro-intestinal tract as also in other diseases where ordinary starchy food was found to disagree with the patient.—Dr. HARVEY LITTLEJOHN, Dr. WILLIAM HUNTER, Dr. JAMES RITCHIE, and Dr. H. M. CHURCH took part in the discussion which followed.

Dr. CLAUDE B KER read a paper on Cross Infection, so-called, in Fever Hospitals. He stated that wherever large numbers of children were congregated there was a risk of infectious disease spreading. This risk was greater in fever hospitals and thus a strong prejudice had arisen in the minds of the public against sending their children to such infectious diseases hospitals. The City Hospital of Edinburgh had got a bad reputation as regards this. By "cross infection" was meant the contraction by a patient of another disease than that for which he was admitted this new infection having been obtained from some other patient in the same hospital. The figures for the Edinburgh Fever Hospital for last year were as follows. Of 1034 cases of scarlet fever 38 took measles (3·6 per cent.) and four took varicella (0·38 per cent.); of 331 cases of measles eight took scarlet fever; and of 147 cases of diphtheria four took scarlet fever, which was a normal proportion. The cross infection in the scarlet fever and measles cases was above the average. Of 472 persons admitted with other infectious diseases none took to other infections. It was not unusual for cases of measles break out in the Metropolitan Infectious Diseases Hospitals and into these no measles cases were admitted. In the City Hospital of Edinburgh the measles ward was directly below the typhoid fever ward and might be said to ventilate almost into it, and yet no case of cross infection had been seen in either ward. There was always some slight risk of the staff carrying infection to patients already in hospital, as, for example, infecting diphtheria patients with scarlet fever. The medical officer was often sent for in a great hurry to such patients on account of the laryngeal troubles and there might be a carelessness of proper disinfection. Nurses were known to infect one another by meeting together in the dining-room, but there was hardly any risk of them in turn infecting patients as they were isolated at so early a period. In the new Fever Hospital now being built at Colinton the scarlet fever nurses were to be isolated and fed apart from the other nurses. The real cause of cross infection was that of imported infection; the infection came from the outside. This might arise in the following ways:—1. From wrong diagnosis by the practitioner who sent in the case. The patient might be sent in as one suffering from measles, but on admission there might be no symptoms and in a few days the skin might be found to be desquamating. 2. The patient might have two diseases only one of which had been diagnosed. It was a comparatively common occurrence to find two co-existing infectious diseases in the same individual. Within the last three months there had been 12 such cases in the hospital. 3. The admission of a patient suffering from one disease and incubating another. This was by far the most common cause of cross infection. Dr. Ker stated that no fever hospital could expect immunity from such accidents, and even in the new hospital such cases of cross infection would occur, though as the wards would contain fewer cases the risk of spread would be lessened.—Dr. JAMES RITCHIE thought that no patient should be admitted to a fever ward until he had been examined by a responsible medical officer of the hospital. He also thought that the nurses attending scarlet fever or typhoid fever cases should be carefully isolated.—Dr. HARVEY LITTLEJOHN stated that cross-infection was due to other causes than infection in hospital and that there had been no great excess of cross infection in the old city hospital—in fact, no greater proportion than in any other fever hospital in the country.—Dr. T. RONALDSON, Dr. A. D. WEBSTER, Dr. J. W. DOWDEN, Dr. NORMAN WALKER, Dr. R. A. LUNDIE, and Dr. JAMES CARMICHAEL also took part in the discussion, and Dr. KER replied.

The following specimens were exhibited:—

Mr. SHAW M'LAREN: (1) Carcinoma of the Stomach and Œsophagus after Gastrostomy. The operation was performed some months before death and under a local anæsthetic only (eucaine). The specimen showed that erosion had taken place into the trachea and the growth was firmly adherent to the aorta and to the subclavian. 2. Bilateral Fracture of the Scaphoid Bone of the Carpus. The accident happened to a young man who had fallen from the roof of a house. The condition was a rare one and no other fractures were present.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Interscapulo-thoracic Amputation.—Axillary Aneurysm.—Disease of Ankle-joint and foot.

A MEETING of this section was held on March 30th, Mr. R. L. SWAN, the President, being in the chair.

Dr. JAMESON JOHNSTON described his case of Interscapulo-thoracic Amputation for Sarcoma. He said that the patient was perfectly well until March 17th, when she got a chill, and developed a slight pneumonia. If recurrence took place he would give up all hopes that sarcoma could ever be removed without danger of recurrence. He thought the tumour was a periosteal sarcoma. The patient was not exhibited.—Mr. SWAN said that some time ago he had under his care a nurse who developed a myeloid sarcoma growing from the great tuberosity of the humerus. In the performance of her duties she fractured her arm through the surgical neck. He removed the humerus at the joint, and as it was noticed that the capsular muscles were involved, the supra-scapular muscle and the tendons inserted into the humerus were also removed. She remained well for 18 months, then went to London, and wrote to him that the tumour was returning. He gave her a letter to Mr. Watson Cheyne, who removed the scapula and a portion of the clavicle. She was going on pretty well at present, but doubt about the future of

such cases must always be felt.—Dr. DOYLE, Mr. BENNETT, and Mr. HEUSTON also discussed the case.

Mr. FRANCIS T. HEUSTON stated that, having shown a case of traumatic aneurysm, subclavio-axillary, cured by ligature of the left subclavian artery in its third stage at the last clinical meeting of the Surgical Section he thought it would be of interest to the members to exhibit a case of Idiopathic Axillary Aneurysm cured by ligature of the right subclavian artery in its third stage. The patient, a car-driver, aged 43 years, was admitted into the Adelaide Hospital, Dublin, on Jan. 2nd, 1900. In June, 1898, he felt a pain of constant character in his right shoulder, which, with swelling of his arm, caused him to apply for relief at a hospital, where his case was diagnosed as axillary aneurysm. He was admitted into the hospital in November, 1898, and was treated by instrumental pressure until March, 1899, when he left, somewhat relieved, to resume his work, but finding that the exposure incidental to his employment was giving rise to swelling of his hand and arm with increased pain he presented himself for treatment at the Adelaide Hospital. On Jan. 11th, 1900, Mr. Heuston ligatured the right subclavian artery in its third stage by the usual incision parallel to the clavicle. The coats of the artery were found to be remarkably attenuated, so much so as to feel more like the coats of a vein than an artery. Owing to this condition the ligature (strong catgut) was only drawn sufficiently tight to occlude the lumen of the artery, as it was feared that it would cut through if pressure was applied. After the operation the progress of the case to recovery was uninterrupted, the wound healing by first intention. The patient left the hospital on Jan. 31st, 20 days after the operation. When he came before the meeting some 12 weeks after the operation a solid tumour was found in the axilla without bruit or pulsation. There was no radial pulse in the right arm, and no swelling or œdema of the hand or arm was present. The patient had perfect use of his arm and he said that he had had no pain since the operation.—Mr. J. LENTAIGNE, Dr. J. KNOTT, Mr. H. B. GOULDING, and others discussed the case.

Mr. JOHN LENTAIGNE exhibited a case in which extensive tuberculous disease of old standing, involving the ankle-joint and foot with caries of the os calcis, astragalus, and lower end of the tibia and fibula, with numerous septic sinuses, had apparently been cured by a thorough scraping with Volkmann's spoon followed by disinfection with chloride of zinc and absolute phenol. This operation had been performed four months previously when the patient, a girl, was in a very bad condition, much wasted, and suffering greatly from pain. Since then the limb had been kept in plaster of Paris and the improvement in the patient's condition had been continuous and uninterrupted. The temperature fell to normal at once and remained normal. The girl was now fat and strong and believed herself to be cured. The plaster of Paris had only been removed the day before and consequently she walked stiffly and with a limp. The scraping operation had been done without much hope of a cure. It was intended as a cleansing preliminarily to amputation or osteoplastic resection of the foot, but the result had been so very satisfactory that Mr. Lentaigne had thought it worth while to exhibit the case.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on April 20th at 20, Hanover-square, W., Dr. J. Ivor Murray, F.R.S. Edin., J.P., the President, being in the chair.—Dr. H. Laing Gordon (Forest-hill) read a paper upon the Climate of Rhodesia. He confined his remarks to Southern Rhodesia (Mashonaland and Matabeleland). He described the conformation of the country and compared the climate of the elevated regions, varying from 4000 feet to 5000 feet above sea level, with the climate of the tablelands of the Orange Free State and Cape Colony, and pointed out the superiority of the Rhodesian tableland in water-supply by springs and streams. On the other hand, he said that the latter country had more severe and continuous rains in summer and the heat of the country was greater in summer than that of the more southerly districts of South Africa. Tables prepared by medical men and others in Rhodesia showing meteorological observations were exhibited. The diseases prevalent in Rhodesia were fully entered into and Dr. Gordon explained that malarial fever, dysentery, pneumonia, and, to a lesser degree, typhoid fever were the chief diseases of the country. Typhoid fever was practically confined to Bulawayo. Pneumonia and dysentery appeared to be on the increase, especially among the natives, but malarial fever, which accounted for more deaths in the country than any other disease, was said to be on the decrease. The death-rate from malarial fever for the year ending Sept. 30th, 1899, in the five chief hospitals of Rhodesia was 2·67 per cent. The connexion between the mosquito and the malarial fever of Rhodesia had yet to be proved. Meanwhile it was interesting to record that the malarial parasite was found on the ground and in the grass, especially about sunrise, and that the overturning of virgin soil in Rhodesia, as elsewhere, frequently caused a severe form of malarial fever. Anopheles had not yet been shown to flourish in Rhodesia, and in the elevated plateaux, where malarial fever was undoubtedly endemic to a certain extent, mosquitoes were not a pest, although flies were. Dr. Gordon referred to the route which the Rhodesian field force was said to be following from Marandellas to Tuli, *viâ* Victoria, and pointed out that it was through the most malarious districts of Mashonaland. He exhibited a number of lantern slides to illustrate his paper and to draw attention to features of the country of more general interest.—The President said that one point referred to by Dr. Gordon was personally interesting to him—viz., the occurrence of malarial fever after recent disturbance of the virgin soil and its gradual disappearance as the soil settled. Exactly the same thing happened in Hong-Kong, the soil of which was composed of decayed granite, when on cutting new roads or excavating for building purposes in the dry soil fever followed and continued for a time.—Dr. Alfred P. Hillier said that, in his opinion, there were in connexion with this disease certain parts in South Africa of extreme value and interest in view of the doctrines put forward as the result of the brilliant researches of Major Ronald Ross, I.M.S., and Dr. Patrick Manson. That the parasite was found in certain species of mosquito, and that it was conveyed by such mosquitoes to men, no reasonable student of bacteriology could question; but as he understood their teaching the investigators went further than this and maintained that the parasite could only be obtained by the mosquito from man and could only be conveyed by the mosquito to man. Dr. Hillier submitted that the positive evidence to establish this theory was not complete and that there were certain facts which appeared to militate against it. For instance, Rhodesia was a huge country—150,000 square miles; its entire population, black and white, was not that of a first-class English provincial town, or, to be more exact, it was, as stated by Dr. Gordon, estimated at about 300,000 blacks and 15,000 whites. Very large portions of the country, therefore, were uninhabited, and in some of these districts—the low-lying, swampy ground, where malaria was most constant and virulent—there was in many instances no population at all, yet parties of wandering hunters in such districts were often to a man prostrated by malaria. From whom, then, could the mosquitoes have derived the parasite? For these and other reasons he might have given, had time allowed, Dr. Hillier confessed to considerable doubt as to whether man was the only host from which malaria might be derived.—Dr. Leonard Williams made remarks on the importance of obtaining statistics as to the relative humidity of the climate.—The President proposed, and Dr. Septimus Sunderland seconded, a vote of thanks to Dr. H. Laing Gordon for his paper.—In reply Dr. Gordon said that he agreed with Dr. Hillier that there were many obstinate facts in connexion with the etiology of malarial fever which the brilliant investigators referred to had not explained and which at present appeared to negative their most recent views.—Dr. Andrew S. Myrtle (Harrogate) read a paper entitled Personal Experiences of Gout which was discussed by the President, Dr. A. P. Luff, Dr. W. Bezly Thorne, and Dr. W. Bowen Davies.—Dr. Myrtle, in his reply, gave his views on dieting in gout.

CLINICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on April 24th, Dr. Judson S Bury, the President, being in the chair.—Dr. W. E. Fothergill described a case of Pregnancy Complicated by Ovarian Cyst and showed the specimen, a thick-walled unilocular cyst of the size of a football, with a solid mass of the size of a fœtal head in its wall near the pedicle. The patient was 35 years of age. Her mother and sister died from unoperated ovarian disease. At the beginning of 1899 her abdomen began to enlarge. Menstruation ceased in April. On July 6th the cyst was as large as an eight months pregnant uterus. At this time she was about three months pregnant. Operation

was proposed but was refused. On the 27th she collapsed, due to the cyst bursting, and on the 30th uterine hæmorrhage began, the shock having caused abortion, which ran a septic course. Bleeding continued till August 20th. On Sept. 5th the cyst was as large as ever and examination on that day set up an attack of acute peritonitis. On the 9th she was very low, with a falling temperature and a pulse of 140. The cyst was rapidly removed with a large amount of peritonitic fluid and pus gushed from the tube as the pedicle was divided. Owing to the circumstances the abdomen was neither washed out nor drained, but the patient made a rapid recovery.—Dr. A. Emrys Jones showed a case of Angioma of the Conjunctiva.—Mr. William H. Stephenson showed a case of Leontiasis Ossea occurring in a man, aged 27 years. Mr. Stephenson remarked that the patient, who was now married, first noticed a swelling of the left side of the lower jaw when he was 14 years of age. There was then no pain or discomfort. The swelling had gradually increased in size up to the present time. 18 months ago a similar swelling began on the right side of the lower jaw and this also had gradually enlarged. During the last year the nasal bones had become enlarged and the left nostril was almost occluded. For the last two months the patient had suffered from severe neuralgic pains in the lower jaw extending up the left side of the face. The patient had met with an accident when nine years of age by falling from a coach, when the head and face were severely bruised and cut, but the jaw was not injured. The family history was good. No nervous lesion or specific disease was present. The whole of the ramus of the lower jaw appeared to be thickened and hypertrophied. The nasal bones were markedly enlarged, especially on the left side. The left superior maxilla and frontal bones were also enlarged. All the other bones were normal. Very little, Mr. Stephenson said, appeared to be known as to the etiology of this obscure and rare disease. It might occur at any period of life and in either sex. It had been thought to be due to rickets but facts did not support this theory. Injury had been mentioned as a cause. It seldom seemed to affect the cranial bones alone but the superior maxillæ and the bones forming the inner walls of the orbit were frequently affected alone. In the process of growth the affected bones became greatly increased in thickness and density, the open cancellous framework becoming converted into dense, compact bone. Cavities such as the ethmoidal and sphenoidal sinuses became obliterated and the contents destroyed. The orbit, the nose, and the mouth might be encroached upon, with resulting prominence of the eyeballs and blindness, loss of smell, and difficulties of mastication. The symptoms varied according to the position and extent of the new bone formation. Pain was often a marked symptom from pressure on the various nerves. The disease tended to run a slow course, extending over years. No treatment was of any avail, but in unilateral cases or where there was evidence of direct pressure on the nerves resection of a portion of a bone might afford relief.—Mr. E. Stanmore Bishop showed and described (1) an Ovarian Cyst with Twisted Pedicle; (2) two specimens of Fibro-Myoma Uteri; and (3) a large Pyosalpinx.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in the Medical School, Owens College, Manchester, on April 20th, the President, Dr. J. B. Hellier of Leeds, being in the chair.—The President related a case of Tubal Pregnancy which was removed by abdominal section after rupture at the end of four months. No symptom was observed until the rupture took place. The specimen consisted of a fœtus at four and a half months with a well-developed placenta and sac. The patient made a good recovery.—The President also showed a specimen of retained Menstrual Fluid from a case of Imperforate Hymen. The case was of interest in that the patient, a girl, 15 years of age, with a tumour reaching three inches above the umbilicus, had absolutely no symptoms of pain or pressure. Six pints of this chocolate-coloured fluid were removed after incision of the hymen.—Dr. Lloyd Roberts (Manchester) showed two unusual specimens of large Fibroid Polypi. In the first case a firm mass filled the vagina and blocked the pelvis. The patient had never complained of pain and only slight hæmorrhage had been present. In the second case a tumour of the size of a large fist protruded from the cavity of the uterus nine days after a natural labour at full term.—Dr. Arnold Lea showed a soft fibroid of the size of a child's head which was removed from the vagina of a nulliparous woman, aged 42 years. The growth had caused no symptoms until 12 hours before the operation when severe uterine contractions resembling labour resulted in the discovery of the tumour, which was removed by morcellation.—Dr. Arthur Helme (Manchester) related a case of Ovarian Sarcoma in a Girl, aged 13 years, and showed the specimen with microscopic sections. The tumour was removed in April, 1899. The abdomen had recently again become enlarged and abdominal section showed that masses of soft growth were invading the omentum and the general peritoneum.—Dr. Helme also showed two specimens of Fibroma Uteri removed by total abdominal hysterectomy. No drainage was used. Both patients made uneventful recoveries.—Dr. Murray Cairns (Liverpool) showed a specimen of fœtus retroflexus which had caused great difficulty during delivery.—Professor W. J. Sinclair read a short paper on the "Prevention and Relief of Pain in Minor Gynæcology." He referred to the necessity of reducing the pain suffered by women in the minor manipulations and operative procedures. In some cases, also, women were very reluctant to submit themselves to total anæsthesia. In many cases operative measures could be carried out with slight pain by the use of a judicious combination of morphia, alcohol, and cocaine locally. The administration of two ounces of alcohol, disguised if possible, and followed by a hypodermic injection of morphia had an excellent effect in diminishing sensitiveness. Under their influence curetting, intra-uterine medication, Emmet's operation, and perineorrhaphy could be readily carried out. Cocaine should be used in a 10 per cent. solution locally and in his experience had never produced any toxic symptoms.—Remarks were made by Dr. J. W. Martin, Dr. J. P. Stallard, Dr. H. Briggs, and the President.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held at 20, Hanover-square, W., on April 26th, Dr. H. Radcliffe Crocker, the President, being in the chair.—Dr. C. F. Marshall showed a case of Lupus Erythematosus in a woman.—Mr. G. Pernet showed a case of Rodent Ulcer in a man.—Dr. T. D. Savill showed a woman with Ecchymoses on the Legs, the result of subcutaneous hæmorrhages. Small ulcers were situated in the centre of some of the ecchymoses, which were said to have followed bullæ.—Dr. Savill also again brought forward the case which he showed at the last meeting—namely, a case of Papular Eruption on the Face resembling a sweat gland acne. The eruption had latterly extended to the trunk and was more pronounced on the face than when last shown.—Dr. A. Eddowes showed a case of Pityriasis Rubra developing on Eczema with scaling and much pigmentation.—Dr. W. B. Warde showed (for Dr. P. Abraham): (1) A case of Acne in a Young Man affecting the face, the trunk, and the outer side of the thighs; and (2) a case of Folliculitis of the Legs in a Youth.—Mr. Pernet showed some Cultivations of the Fungus of Tinea Nodosa and Tinea Versicolor.—Dr. Warde showed a number of Cultivations from Large-spored and Small-spored Ringworm.

Reviews and Notices of Books.

Electro-physiology. By Dr. W. BIEDERMANN of Jena. Translated by FRANCES A. WELBY. Vol. II., with 149 figures. London: Macmillan and Co., Limited. 1898. Pp. 500. Price 17*s.* net.

FEW men are better qualified to write a treatise on Electro-physiology than the well-known professor of physiology at the University of Jena, whose name is familiar to all for his work in this and kindred subjects and whose observations and conclusions are frequently referred to by the Germans as of accuracy, weight, and authority. The translation made by Miss Frances Welby is very good and we are scarcely ever reminded that it is a translation. The previous volume contained the first five chapters of the entire work.

The present volume commences with an Account of the Electromotive Actions that have been Observed in Vegetable Cells, summing up the observations of Jurgensen on Vallisneria; Hermann, Kunkel, Haake, and Munk on the

leaves of various plants; and of Burdon Sanderson on those of the Dionæa muscipula. A short chapter is devoted to the Structure and Organisation of Nerve and a remarkable illustration is given showing the wonderful ramification exhibited by the nerve processes proceeding from a ganglion cell, which Dr. Biedermann has succeeded in demonstrating by the employment of methyl blue and picric acid. Then follows a section on the Conductivity and Excitability of Nerve. The author adduces evidence derived from the experiments of Grünhagen and others that excitability and conductivity are not corresponding or interchangeable terms, but that they are distinct conditions and may alter independently of each other. The electrical excitation of nerve is next considered, which, of course, includes the phenomena of electrotonus. The laws of excitation of nerve and contraction of muscle advanced by Ritter and Pflüger are discussed and, speaking generally, corroborated, and this is followed by a description of resting nerve current and of the current of action.

The most interesting chapter in the book is the eleventh, which treats of Electrical Fishes. The author has here collected all the principal facts that have been discovered in regard both to the anatomy and physiology of their electrical organs. Long known and dreaded by the ancients, either in the form of the Torpedo in the Mediterranean or of the Silurus in the Nile, it was the distinguished naturalist Redi who first made us acquainted with the anatomical features of the electric organs of the torpedo and advanced the remarkable statement that they were a modification of muscle, a view that subsequent inquiry has tended to confirm. The discovery of the Malapterurus in the rivers of Senegal by Adanson and of the Gymnotus by the Dutch explorers in Surinam further stimulated the interest of leading physicists and naturalists, and valuable anatomical researches were made by Savi, Du Bois Reymond, Hunter, Pacini, Sachs, Fritsch, and many others, amongst the latter being those of Burdon Sanderson and Gotch. Faraday, who was fortunate enough to be one of the first to examine the most powerful of all electrical fishes, the South American eel, showed that he could obtain from it all but one of the effects which he laid down as essential to the identity of all forms of electricity—viz., sparking, heat, attraction and repulsion, magnetism, hydrolysis, and physiological action. The one exception was failure of conductivity through flame. The whole of this chapter is full of interesting details both in regard to the structure and the functional activity of the electrical organs in the above-named fishes.

The last chapter is occupied with an account of the electro-motive phenomena observed in the eye as the result of sudden exposure of the eye to light and its sudden withdrawal. The chief observations on these points have been made by Kühne and Steiner and by Dewar and M'Kendrick, and Dr. Biedermann considers that it may be accepted as a fact that the epithelial elements or true sensory cells are the seat of the electro-motor activity.

The treatise may be regarded as the best work on electrophysiology extant, and its contents should be thoroughly mastered by all those who wish to advance and render more accurate the somewhat meagre and uncertain indications for the application of electricity in disease. It is obvious that there is a large field for observation in this direction, and remembering that the functional activities of nerves themselves are not easily exhausted, that the structure of the electrical organs resembles that of muscle, and that there are many points of analogy between nervous and electrical discharges, it does not seem unlikely that various forms of paralysis hitherto regarded as incurable might be relieved or cured by the appropriate and more or less persistent employment of electrical currents. We ought to add that at the end of each chapter there is an excellent bibliography.

The Treatment of Pelvic Inflammation through the Vagina. By WILLIAM R. PRYOR, M.D. With 110 Illustrations. London: Rebman. 1899. Crown 8vo. Pp. 248. Price 8*s.* 6*d.* net.

As Dr. Pryor very truly says in his preface, there exists the utmost confusion in the profession at the present day regarding the most successful means of treating pelvic inflammations. Any attempt, therefore, to increase our knowledge of this important subject and at the same time to render the principles of its treatment more certain is to be welcomed.

The author of this book may well be called an enthusiast for the treatment of such cases of pelvic disease as require operation by the vaginal route, and there is certainly much to be said for this view. In considering endometritis great stress is laid upon the importance of determining whether the discharge is purulent or non-purulent, and the immediate necessity if it be purulent of checking it. The latency of gonorrhœal and septic endocervicitis and the fact that either form may exist without producing pathological discharges must be constantly before the mind of the physician when he wishes to use the sound or to operate upon the cervix. In cases of acute septic endometritis irrigation of the uterus with a quart of Thiersch's solution, to be followed by three quarts of boric acid solution, is recommended, the irrigation to be repeated in 12 hours if necessary. If after two days the local and general symptoms do not improve extension to the adnexa is to be feared. In cases of puerperal infection if four hours after the injection the temperature is not normal the uterus is again irrigated and packed with iodoform gauze. If 24 hours after the treatment fever is still present the uterus is curetted and packed with iodoform gauze.

In all cases of sepsis where curettage is performed because milder measures have failed to relieve the pouch of Douglas is opened at the same time. This operation consists in opening the peritoneal cul-de-sac, separating with the fingers any adhesions that may have already formed about the appendages, and filling up the pelvis to the level of the Fallopian tubes with strips of iodoform gauze. The vaginal and uterine plugs are removed after three days, while the pelvic dressing is taken out after seven days and replaced by fresh gauze. This dressing is renewed every four to seven days until the wound closes. Large quantities of muddy serum drain away through the gauze and when necessary the patient is given hypodermic injections of strychnine and rectal injections of salt solution.

As a result of bacteriological examination the author has found that whenever streptococci have been present and even when the peritoneal cavity contained pus the dressings have absolutely sterilised the operation field. This result is usually accomplished by the third dressing. Curettage is recommended for cases of acute gonorrhœal endometritis, whether seen early or late. The descriptions given of the various forms of pelvic inflammation are good and clear. Dr. Pryor differs from most gynæcologists in refusing to recognise the condition usually described as pelvic cellulitis, although he describes broad ligament abscess, which is supposed to be the result of such a cellulitis.

The practice of applying strong caustics or antiseptics to the interior of the uterus after curettage is strongly condemned. The operation of vaginal section as practised by him is believed by the author to overcome the two chief difficulties in exploring the pelvic organs through the vagina—viz., the presence of the uterus and the prolapse of the intestines. The operation is performed as follows. After opening Douglas's pouch by an incision through the mucous membrane and perforation of the peritoneum with the finger the patient is placed in Trendelenburg's position. A careful digital exploration of the pelvic viscera is now made. After wiping the pelvis free from

blood a visual inspection is carried out. The vagina and posterior edge of the incision are drawn backwards by a Péan's retractor, and a Péan-Pryor trowel is inserted behind the uterus. By this means the uterus is pushed up behind the symphysis pubis and out of the pelvic cavity, and by manipulation of the trowel the adnexa of first one side and then the other are readily brought into view and can be dealt with. This method of vaginal exploration is satisfactory in all forms of adnexal inflammation and ovarian neoplasms. The only two conditions recognised by the author as contra-indications are an ectopic gestation which has ruptured into the broad ligament and intra-ligamentous fibroid tumours. He concludes that the operation is far preferable in cases suitable for its employment to both abdominal section and anterior colpotomy. The ease and certainty with which the pelvic organs can be explored by this variety of vaginal section enable an operator to treat a much larger number of cases by conservative measures than was formerly the case, and Dr. Pryor utters a very strong plea for such treatment in all cases that offer a chance of success. The pathological conditions for which Dr. Pryor usually does a radical operation are as follows: diffuse pelvic suppuration; genital sclerosis; puerperal pyosalpinx in women over thirty years of age; relapses after conservative operations; uterine tuberculosis; chronic metritis with infected ligatures after abdominal operations; abdominal sinus left after cœliotomy; ruptured ectopic gestation or unruptured and associated with adnexal disease on the opposite side; and small bilateral ovarian cystomata. He occasionally performs a palliative operation in diffuse pelvic suppuration, ovarian abscess, and cases of pelvic suppuration where the general symptoms are too grave to warrant an immediate ablation. For other pelvic conditions he usually employs conservative measures. The method of performing vaginal ablation *en masse*, vaginal ablation with hemisection of the uterus ("division of the difficulties by division of the uterus," as the author happily puts it), and vaginal ablation with morcellation are all fully and clearly described.

The book is well written and the illustrations are good. The whole gives a good account of the methods of treating inflammatory and other conditions of the pelvic regions through the vagina, and will certainly do a great deal to help to settle the vexed question of abdominal *versus* vaginal section. We have perused the book with pleasure and we recommend it to all those practitioners who are interested in pelvic surgery.

A First Book in Organic Evolution. By D. KERFOOT SHUTE, A.B., M.D., Ophthalmic Surgeon to the University Hospital (Columbian), Professor of Anatomy in the Columbian University. London: Kegan Paul, Trench, Trübner, and Co., Limited. 1899. Pp. xvi., 285. Price 7*s.* 6*d.*

ALTHOUGH this book has been written, as may be read in the preface, primarily for the use of students in the medical department of the Columbian University, the requirements of the more general public have not been neglected; as the author very truly observes, "no one who aspires even to a moderate degree of intellectual culture can well afford to exclude a clear understanding of what this doctrine of evolution really is." He then expresses the hope that "this little work will render such a conception easily attainable." Without doubt it will, for the author has succeeded in setting forth a very clear account of his subject without entering into a mass of detail which probably would have an interest only for the reader more deeply versed in the subject than those for whom this work has been written.

A few words as to the arrangement. The volume has been conveniently divided into sections, each of which deals with one branch of evolution. Naturally the first section describes the cell, including a brief account of the more important facts attending karyokinesis and considering in some detail various unicellular plants and animals. In this same section is an account of the maturation of the human ovum, fertilisation, and subsequent segmentation and the formation of the germinal layers.

Section 2 deals with Heredity with Variation. The examples and illustrations given are extremely clear and cannot fail to bring home to the reader exactly what is meant by these terms. A brief account of the Bach family is given as an illustration of mental heredity, and to illustrate the inheritance of moral character the well-known work of Mr. Dugdale, "The Jukes," is made use of. The theories relating to the transmission or non-transmission of acquired characters are very clearly stated. Sections 3 and 4 are chiefly geological; the former treats of Unstable Environment as illustrated by the development of the continent of North America, and the latter gives an account of the Transmutations of Living Forms, exemplified by a brief history of organic life as recorded by the rocks of bygone ages.

Space forbids us to consider the remaining sections in detail; suffice it to state that they enter into the consideration of natural selection and the evolution of man. A synopsis of the animal and vegetable kingdoms occupies Section 7. The classification of animals has been well done, but that of plants is, in our opinion, too scanty and the characteristics of each group are too briefly given; in fact, in some cases the sub-divisions are not characterised at all—for instance, sub-dividing the phanerogams into gymnospermæ and angiospermæ is of very little value unless the characters of each group are described; this has not been done and although this work, taken as a whole, is very good, the botanical portions leave much to be desired. A few examples will suffice to show this. On page 138 the sporogonium of a moss is described as a seed capsule. The use of the word capsule is not objected to, but the spores should not be termed seeds. Then again on page 160 we read, "The stamens are the male elements," and on the page following "The ovary of a pistil has a number of cells in it called ovules (female germ cells)." An improvement is needed here.

The illustrations are both excellent and numerous, there being 12 plates, 10 of which are coloured, and 27 figures in the text; in brief, the get-up of the book leaves nothing to be desired.

LIBRARY TABLE.

Midwifery Notes for the Use of Students. By T. A. GLOVER, M.D. Edin. Crown 8vo, with Illustrations. Edinburgh: E. and S. Livingstone. 1900. Pp. 95. Price 2*s.* 6*d.* net.—If any adequate reason is to be brought forward for the production of such a book as this short sketch entitled "Midwifery Notes for the Use of Students" it must be the fact that the work presents the elements of midwifery practice in a clear, condensed, and accurate form. Examined by this standard the book under consideration can hardly be said to justify its existence. The first chapter treats of the diagnosis of pregnancy. Not a word is said about the changes that occur in the uterus and the cervix, and after reading the chapter the student would be quite unable to attempt the diagnosis of a case of pregnancy of three and a half months duration. The book is short, sketchy, in many respects incomplete, and there are several statements to which we must take exception. Amongst these are the implied condemnation of a midwifery bag with a moveable lining which can be boiled, the advice to students to carry a pair of forceps, the assertion that the chin becomes flexed on the sternum at the commencement of labour, and that the poison of scarlet fever produces septicæmia. In the chapter upon

hæmorrhage before delivery not a word is said about accidental hæmorrhage. In considering the treatment of cases of rigidity of the cervix the author omits all mention of the use of hydrostatic bags, a much safer and better method of dilatation than the one recommended by him of making incisions. We do not at all agree with the use by students of such books in preparing for examination, and we are strongly of opinion that the custom mentioned by the author of students being allowed to attend midwifery cases before they have reached the practical part of their studies should never be permitted.

Burdett's Official Nursing Directory for 1900. London: The Scientific Press, Limited. Pp. 685. Price 5*s*.—This useful book does not pretend to be official in the same sense as that in which the Medical Register may claim to be, but it "states the facts as nearly as they can be ascertained" and is edited by an editorial committee. Besides being a directory of nursing compiled on the lines of the admirable Medical Directory it gives an outline of the principal laws affecting nurses, a list of general and special hospitals together with Poor-law infirmaries which train nurses, a list of nursing institutions, both managed by a committee and otherwise, and lists of Government departments, hospitals, and institutions which employ but do not train nurses. There are also given details of colonial, American, and foreign hospitals and nursing institutions, a list of training schools for attendants on the insane in the United Kingdom and in America, and an account of provident funds, examining bodies, and the like which have to do with nurses. We are so often asked questions upon the matters with which this book deals that we welcome its third appearance in an enlarged form.

Home Nursing. By EVELEEN HARRISON. New York and London: Macmillan and Co. Pp. 229 and index. Price 4*s*. 6*d*.—This is an admirable little book, with one exception, to which we shall refer later. It is written for the use of those who cannot afford a trained nurse and the directions which it gives are put down in plain and simple language. Of course, reading instructions upon how to make a bed is a very different thing from carrying them out, but still any person with an ordinary amount of common sense should be able after a few trials to act as an extempore nurse after reading Miss Harrison's book. The passage to which we take exception occurs upon pages 176 and 177 in the chapter on Poisoning: "When anyone is poisoned and you are not sure of the antidote do not hesitate a moment, but give an emetic of some kind while awaiting the arrival of the doctor." Various simple emetics are then mentioned quite harmless in themselves. The writer then goes on: "The antidote for acid poisons, such as *carbolic acid*, *nitric acid*, *oxalic acid*, is as follows: after vomiting has stopped give two or three glasses of milk and lime water. ..... For alkaline poisons, such as *ammonia*, *lime*, *saltpetre*: after vomiting give lemon juice or vinegar ....." This to our minds is a plain direction that an emetic should be given in cases of poisoning by either corrosive acids or alkalies and such a mode of treatment is, as every medical man knows, absolutely wrong. We might also mention that in this country, at any rate, the term "saltpetre" means nitrate of potassium, which is not an alkali; but possibly the word in America means pearl ash or some caustic alkali of a similar kind. On page 61 Miss Harrison recommends trional. Proprietary remedies should not be recommended in even *quasi* medical books. The recipes at the end of the book are good for the most part, but we must confess that the following one puzzles us (page 222): "Thick Milk.—Put a quart of milk away in a cool place in a wide bowl until it becomes thick and smooth like jelly." Directions then follow for serving the milk as junket is served. Surely Miss Harrison has omitted the mention of rennet or some ferment of a similar kind. Milk put away by itself will certainly turn sour and coagulate, but not in one smooth clot. These points are but faults, but the poison question is very serious.

The Medical Annual and Practitioner's Index; a Work of Reference for Medical Practitioners. 1900. Eighteenth year. Bristol: John Wright and Co. Pp. 729. Price 7*s*. 6*d*. net.—We welcome the appearance of this useful annual. Though smaller than some of its more ambitious competitors, it is also more manageable and certainly contains as much as the busy practitioner will find time to read and all that he wants to know of the progress of medicine and surgery during the past year. We have so many times spoken favourably of this work that it is not necessary to say more than that this year's volume is equal, if not superior, to those that have gone before. The list of contributors is sufficient to prove to anyone the trustworthy nature of the information furnished. As in previous issues, numerous illustrations, coloured and plain, accompany the text. It is somewhat invidious to mention particularly any special article where all are so good, but we would like to draw attention to the account of Mycetoma ("Madura foot"), by Lieutenant-Colonel W. K. Hatch, I.M.S. The first 60 pages are devoted to a description of new remedies which are arranged in alphabetical order so that reference is easy. In this section there is a very good account of toxins and antitoxins and the nature of "immunity," acquired and congenital, is clearly described. The main portion of the book is occupied by a description of the advances during 1899 in our knowledge of the various diseases. These are arranged alphabetically. Progress in pathology is noted, but most attention is paid to advances in therapeutics. Then follow sections on (1) legal decisions affecting medical men; (2) sanitary science during the year; (3) new inventions and pharmaceutical and dietetic articles; (4) medical and surgical books of the year; (5) a list of lunatic asylums and homes for inebriates; and (6) nursing institutions. A few pages at the end are left blank for notes.

JOURNALS AND REVIEWS.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., M.D. Cantab., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. XXV. No. 4. London: C. J. Clay and Sons, April 24th, 1900. Price 6*s*.—In addition to the Proceedings of the Physiological Society for the last four meetings this part contains six articles—viz.: 1. J. A. MacWilliam, M.D. Aberd., Professor of Physiology in the University of Aberdeen, Further Researches on the Physiology of the Mammalian Heart, in which the author discusses and gives graphic tracings of the influence of chloroform upon the rate of the heart-beat, with some observations on the effects of asphyxia. 2. Joseph Barcroft, M.A., B.Sc., Fellow of King's College, Cambridge, The Gaseous Metabolism of the Submaxillary Gland. This preliminary article deals with methods of conducting the inquiry and a description of an apparatus for gas analysis, some modification of the usual methods being required on account of the small quantity of blood obtainable in experiments on this gland. 3. W. A. Osborne, Assistant in Physiological Chemistry; and Swale Vincent, Assistant Professor of Physiology, University College, London, On the Physiological Effects of Extracts of Nervous Tissues. The authors find that extracts of nervous tissues when intravenously injected produce a marked temporary fall in arterial blood pressure, the fall occurring after section of both vagi and after the administration of atropine and being due to dilatation of arterioles, those of the splanchnic area being first affected. The depressant substance acts directly on the blood-vessels and is not choline. 4. The Ferricyanide Method of Determining the Oxygen Capacity of Blood, by John Haldane, M.D. Edin., F.R.S. This method depends on

the fact that the combined oxygen is liberated rapidly and completely on addition of solution of potassium ferricyanide to laked blood and may be easily measured. 5. Ivor Ll. Tuckett, Fellow of Trinity College, Cambridge: Note on the Regeneration of the Vagus Nerve. The author finds that after section of the vagus all the fibres will in time recover their function. 6. F. Gowland Hopkins, M.A., M.B., B.Sc. Lond., University Lecturer in Chemical Physiology, On the Separation of a Pure Albumin from Egg-white. This article contains the result of a long and careful research.

The Medical Examiner.—In the April number of this new monthly journal, which deals almost exclusively with questions of life assurance, the principal article is on the Selection of Lives for Assurance. It is based on a paper read before the Newcastle Insurance Company by Mr. William Hughes, F.I.A., of the Prudential Assurance Company, and contains some useful practical hints. The *Medical Examiner* is published by Messrs. Walbrook and Co., Limited, 14, Whitefriars-street, E.C.

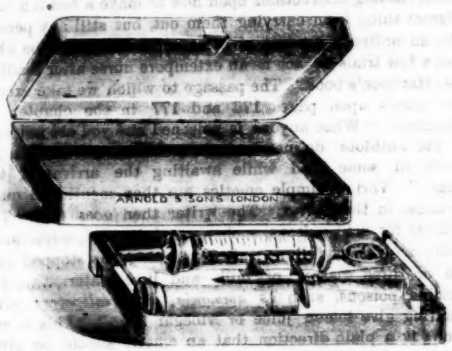
The Journal of the Sanitary Institute, which is published quarterly, contains in the number dated April, 1900, a continuation of the report of the congress held at Southampton last year. Among other papers of interest are those upon Smoke Abatement contributed respectively by Mr. Brailey Hodgetts, a municipal representative, and Dr. Joseph Priestley, a medical officer of health. Dr. C. L. Birmingham of Sheffield read a remarkable paper upon Gannister Disease. This is a form of diffuse fibrosis of the lungs which prevails among those employed in working a specially hard form of rock known as gannister. The mortality rate amongst gannister grinders is appalling—namely, 179·8 per 1000 per annum. In the section alloted to medical officers of schools Dr. J. F. L. Whittingdale, the medical officer to Sherborne School, read a paper upon the question of the Advisability of Allowing Junior Boys to Compete in Long-Distance Races. He quoted instances of two boys running in the junior steeplechase over a course of two and a half miles who afterwards developed marked symptoms of heart strain. The entries were limited to boys under 15 years of age. He had examined at an interval of three months afterwards all the boys who ran in the last race, which took place previously to the reading of his paper. Two boys complained of palpitation and faintness coming on without apparent cause, three others complained of the same sensations after running, and in eight cases there were signs of slight hypertrophy of the heart.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., ADAM SEDGWICK, F.R.S., W. F. R. WELDON, F.R.S., and SYDNEY J. HICKSON, F.R.S. London: J. & A. Churchill. 1900. New Series, No. 170. Vol. XLIII., Part ii. Price 10*s.*—The articles contained in this number of the Quarterly Journal of Microscopical Science are:—1. On the Reaction of Daphnia Magna, Straus, to Certain Changes in its Environment, by Ernest Warren, D.Sc. 2. A Revision of the Genus Steganoporella, by Sidney F. Harmer, Sc.D., F.R.S. In making this revision Dr. Harmer has availed himself of the collection of polyzoa brought home recently from Torres Straits by Professor A. C. Haddon and both describes and figures many new species of this genus. 3. On a New Histriobdellid, by William A. Haswell, F.R.S. This minute animal was found in large numbers by the author in the branchial chambers of the fresh-water cray-fish, astacopsis tasmanicus, in Tasmania, and he has named it "stratiodrilus tasmanicus." The anatomy of the animal is illustrated by numerous drawings. Its affinities are not very certainly made out, but it exhibits various points of resemblance to rotifers, turbellaria, and to chætopods. 4. On Spongioporphyrin: the Pigment of Suberites Wilsoni, by C. A. MacMunn, M.D. The spectroscopic bands of the colouring matter dissolved in various solutions are given. 5. Further Remarks on the Development of Amphioxus, by E. W. MacBride, D.Sc. Lond., Professor of Zoology in M'Gill University, Montreal. 6. Quelques Observations sur les Onychophores (Peripatus) de la Collection du Musée Britannique, par M. E. L. Bouvier, Professeur au Muséum d'Histoire Naturelle de Paris. 7. On the Diplochorda, III., The Early Development and Anatomy of Phoronis Buskii, McI., by Arthur T. Masterman, M.A. Cantab., D.Sc. Lond. In the course of this article the author makes the following remarks. The phyletic history of an organ appears to consist of the following steps: (1) the function and structure are co-extensive with the organism itself or are very early limited to either the endoderm, esoderm, or mesoderm; (2) the function becomes concentrated in a certain part of the primary layer and the part itself then becomes differentiated structurally from the rest of the layer; and (3) the function is so fully defined as apart from that of the primary layer as a whole that the organ also becomes organically separated from the parent layer. In a natural group it is to be expected that the lower members will exhibit stages 1 and 2 of organs which are in stage 3 in the higher.

New Inventions.

IODISED PHENOL ASEPTIC HYDROCELE OUTFIT.

MESSRS. ARNOLD AND SONS have constructed for me an iodised phenol aseptic hydrocele outfit, consisting of a trocar without shoulder and a cannula without a split and with finger-grips at its upper end; a syringe with a thumb hole in the upper end of the piston rod, easily taken to pieces for cleaning; and a small bottle with metal cap for carrying the iodised phenol. All of these fit into a metal rack which can be removed from the metal case and are then ready for use. The trocar resembles the ordinary trocar in every respect with the exception that the point is conical and not bayonet-shaped and without shoulder. The conical point fits



tightly into a metal cannula tapered slightly at the lower end so as to receive the conical-shaped end of the trocar, and thus a continuous conical surface is formed without shoulder and without split in the cannula. A split in the cannula is objectionable, as after a little wear the split does not close completely and so allows a small quantity of the solution injected to escape into the surrounding tissues which is apt to produce an extensive sloughing of the scrotum. The finger-grips on the cannula serve to fix it tightly on the trocar or syringe when in use. The amount of iodised phenol injected into a hydrocele of the tunica vaginalis of an ordinary size is one drachm, but the amount required depends upon the size, and the experience of the surgeon soon enables him to judge correctly of the proper amount. Before using the trocar and cannula the point should be lubricated with a little carbolised oil or vaseline.

FREDERICK DEANE.

Barbadoes.

THE LANCET.

LONDON: SATURDAY, MAY 12, 1900.

THE address of Dr. W. THOMAS, President of the New Zealand Branch of the British Medical Association, to the annual meeting of the Branch held at Christchurch, and published by us last week, will be read by many practitioners at home with a full sense that "Distance lends enchantment to the view." As we are apt to become enamoured of far-off days and their chivalrous and unselfish deeds, placing them far above the level of those of our own prosaic times, so there is a tendency in our colonial brethren to compare their own lot with ours and to conclude that the advantage is not on their side. Apart from the justice of this comparison and the conclusion reached the address is worthy of study by all medical practitioners. It goes to the root of many questions arising out of the relation of medical practitioners to the public and deals with them in a spirit of much thoughtfulness and on the strength of an experience extending over 30 years. The mere enumeration of these questions will show how thoroughly the subject has been analysed and how impartially Dr. THOMAS has apportioned the blame for any defects and faults in our relations with the public, between the public on the one hand personified in "The Layman" and "The Medical Practitioner" on the other. Under the head of "The Layman" he deals with "instinctive antagonism of the layman to us as a class," "the objection made to our fees as too high, driving patients to the chemists," "lessened sentiment and ingratitude," "inability to understand medical ethics," and "craving for specifics and encouragement of quackery." Under the head of "The Medical Practitioner" he treats of "our jealousy of each other," of "popularity-hunting," of "pandering to the wishes of the patient," of "the contract to cure," and of "the acceptance of easily dispensed proprietary preparations."

The most suggestive of Dr. THOMAS'S themes is the first, in the title of which he alleges on the part of the layman "an instinctive antagonism" to our profession. We confess to extreme doubt on this point, and, at any rate, to an extreme reluctance to believe in any such deep prejudice against men of our calling. Dr. THOMAS labours with ingenuity to explain the existence of this feeling in the layman against the medical man and attributes it to a sort of grudge in men against their physician for finding out their weaknesses and for prescribing medical and physiological limits to their freedom of action. There is something in these points, but they do not justify the sweeping charge of an "instinctive antagonism." In what community should we look for the manifestation of such a feeling? Not in barbarous communities, for their disposition is rather to magnify, and even worship, "the medicine man." Again, in over-cultivated Greece ÆSCULAPIUS was worshipped everywhere and his cult was introduced into Rome. Modern society, if not so flattering to physicians, is not unconscious of the debt which it owes to medical science and its representatives. The "man in the street" to whom all questions are now referred has no intrinsic or instinctive disrespect to the medical man. We are persuaded that as compared with the reverence entertained for other professions that felt towards the medical profession is deep and general. In crowded cities and in remote hamlets this is equally the case. We agree with Dr. THOMAS that the profession itself is sometimes unmindful of its own dignity. It makes itself too cheap; it is tempted to adopt the ways of the world and of trade and to vaunt itself in advertisements; it is unfaithful to itself and often to its best members who vindicate its claims. These are reasons enough for defective respect on the part of the community. There are others, as he suggests. Our art is still very imperfect. In respect of many diseases it is still comparatively powerless. Epidemics and plagues and cancer still rage among the nations, imperfectly controlled by the medical profession. We can only detect certain diseases, and in doing so pronounce a kind of verdict on the unhappy patient, who finds in the ignorant quack no such limitations of function, but rather an unfailing power of diagnosing a disease and an equally unfailing ability to prescribe. But in spite of the limitations of legitimate medicine men of all nations and classes respect the medical art and, often in spite of himself and his defects, respect the medical practitioner.

Dr. THOMAS'S address will indicate to every member of the medical profession the errors into which he is apt to fall in a somewhat noisy age, and the discredit that he may bring on his profession by any failure in personal character or in professional methods. Those who are least likely to err will be most grateful to him. His remarks on the mutual jealousy of medical men, on popularity-hunting, on pandering to the wishes of patients, and on contracts to cure cannot be too deeply pondered by our readers. He attributes some of these faults to the absence from the curricula of medical schools of all teaching on the ethical aspects and traditions of the profession. There is some truth in this view and Dr. THOMAS is not the first critic who has pointed out the defect. We commend his complaint to the consideration of those engaged in medical education. Lastly, Dr. THOMAS'S charge against the public of an inadequate sense of the value of medical service is founded upon fact. The feeling amounts sometimes to positive meanness and is by no means confined to the poor. Dr. THOMAS attributes it largely to the demoralisation of the public by the profession itself through low charges, gratuitous hospital and dispensary attendance, and club and contract practice. The profession must assert itself; and when an ethical element is imported into the teaching of medical schools the teachers will perhaps begin by explaining how it is that the consultants as a class with some noble exceptions leave the rank-and-file to fight almost alone for the abolition of hospital abuse and for the concession of better terms for ordinary medical attendance. Dr. THOMAS may be right in

saying that the evils which he depicts are greater in the Colonies than at home. But they certainly exist here in great force.

THE Conference which was convened by the Manchester Medical Guild to ascertain the opinions of the medical profession on certain questions of medical reform and organisation came to an end on May 3rd, having commenced to sit on May 1st. An account, though necessarily not an absolutely verbatim report of the proceedings, will be found in another column, as well as in our issue of May 5th, while we would point out to our readers that the addresses of the three Direct Representatives of the profession upon the General Medical Council—namely, Mr. VICTOR HORSLEY, Mr. GEORGE BROWN, and Dr. JAMES GREY GLOVER—are printed in full. These addresses respectively dealt with matters very important to the profession. Mr. HORSLEY considered the Medical Acts; Mr. GEORGE BROWN treated the question of Medical Charities in their Relation to the Public and the Profession; and Dr. GLOVER, though calling his paper "Some Debated Points in Medical Politics," descended from the general to the particular and delivered himself of a sober and reasonably argued apologia as to his position with regard to the Midwives Bill. Mr. HORSLEY and Mr. BROWN said much that was true and nothing that was new, although this statement in no way means that we think their words unimportant. It is only by constant reiteration that any reforms have ever been obtained and the more constantly the need for them is brought before the medical profession the more likely is it that the profession will obtain its desires. Only there must be a clear and definite understanding as to what is wanted.

Now with regard to the Midwives Bill the discussion upon Dr. GLOVER'S paper to our minds at least showed that many members of the Conference did not know what they wanted. Dr. GLOVER pointed out that, firstly, midwives exist; secondly, that the untrained among them are a danger to lying-in women; and thirdly, that those who object to the legal regulation of the practice of midwives altogether are bound to find some other measures to prevent the tragedies that now happen. With respect to present legislation Dr. GLOVER considered that there were two alternatives before the profession. Either it might accept the legislation on the present lines with the safeguards which would be drawn up by the Midwives Board, or, on the other hand, the profession might possibly defeat the Bill. In the latter case the Government might say practically, "We will have nothing more to do with the medical profession and will create a perfectly independent class of midwives who shall lay down their own rules and carry out their own discipline." And we agree with Dr. GLOVER that under such an innovation the position of the medical profession would be worse than under any Midwives Bill as yet put forward. In the discussion which followed upon Dr. GLOVER'S address it was evident that certain delegates disapproved *in toto* of the present Bill, and, indeed, of all legislation on the matter, except such as should give effect to their desire of rendering all midwifery practice by unqualified women absolutely illegal. How this result was to be brought about they did not explain. Other speakers, though not approving of the present Bill, agreed on the necessity for legislation of some kind on the matter. We have said that Dr. GLOVER'S defence of his position was sober and reasonably argued; but we hold no brief for Dr. GLOVER nor do we, as a reference to our former remarks upon the question of the registration of midwives in general and Mr. TATTON EGERTON'S Bill in particular will show, agree with his views. He is of opinion that all the difficulties which will arise in the course of events, supposing that the Bill passes unchanged by the Standing Committee on Law, may safely be left to the judgment of the Midwives Board. This hope is, we think, too sanguine. The all-important question of the point at which the functions of the midwife end and those of the medical man begin requires settlement, and upon this point depend other matters of no slight importance, such as the obligation of the midwife to send for a medical man and the obligation of the sanitary authority to make such arrangements as shall ensure that the help of a medical man shall be forthcoming when required. We are of opinion that Dr. GLOVER will find the Midwives Board unable to settle such large matters as these with satisfaction to the medical profession.

Our Special Commissioner in another column draws attention to the constitution of the Conference in an article which contains many valuable suggestions. We would beg the impetuous school of reformers to read this communication and to ask themselves whether the undisciplined abuse of all that they do not like really tends to bring about any changes. A conference on medical organisation should not be, to use our Commissioner's words, a "mere meeting to air grievances," and this is what the Manchester Conference, in many of the debates, degenerated into. At the same time we wish to bear evidence to the sincerity of purpose of many of the speakers and to their real belief that opposition to the Midwives Bill is the right course to pursue not only from a professional point of view but for the good of the public.

THE auxiliary scientific investigations undertaken by the Local Government Board during the past years have yielded results of extreme interest. These investigations are described at some length with experimental details in the supplementary report for 1898–1899 recently issued above the signature of the late medical officer, Sir RICHARD THORNE. The first contribution is by Dr. KLEIN, who has been very busy in attempting to throw fresh light on the fate of pathogenic and other infective microbes in the dead animal body. The experiments were undertaken with the view of setting at rest the important question as to whether graveyards and cemeteries could become a source of risk to health by the contamination of the water-supply with pathogenic organisms from persons dead from specific disease and buried in these areas. The tests were made with the bacillus prodigiosus, the staphylococcus pyogenes aureus, the cholera vibrio, the typhoid bacillus, the diphtheria, tubercle, and plague bacillus, and the bacillus enteritidis sporogenes. The results tend to show that the popular belief that the microbes of infectious disease retain their vitality and power of mischief within dead and buried bodies for indefinite periods is unfounded. Indeed, in the case of the guinea-pig, buried at from 12 inches to 24 inches beneath the surface

it is shown that the vitality and infective power of these microbes pass away in a comparatively short time. A month is sufficient for this result, which, therefore, is a period long before the coffins containing the buried bodies have shown any indication of leakage. The same result appears in the case of bodies buried directly in earth or in sand, and Dr. KLEIN suggests that in this instance the vitality and infectiveness of the pathogenic organisms contained in the viscera have passed away long before the outer skin has become permeable by them. Again, it is conceivable that the destructive action of the putrefactive microbes from without would prove a barrier against the exit of pathogenic microbes. To the interesting question as to what may be the essential cause or causes of this process of rapid destruction of the vitality and infectiveness of pathogenic microbes in the interior of a dead body Dr. KLEIN hazards the answer that perhaps in the struggle the more favoured bacillus cadaveris soon becomes ubiquitous and ousts the others, or that possibly some chemical metabolic products, elaborated by other more favoured microbes in the course of their growth and multiplication, operate as a poison on the pathogenic microbes. We have in these suggestions a striking example of the keen competition that appears to be ever raging around us on the part of specific non-pathogenic bacteria to obtain the upper hand over pathogenic bacteria.

More or less related to these interesting results are those contributed by Dr. SIDNEY MARTIN on the growth of the typhoid bacillus in soil. In nearly all his experiments very definite evidence was obtained that the soil contains normally specific organisms which are destructive to the typhoid bacillus. On the other hand, the typhoid bacillus was shown to flourish for over a year in soil which had previously been sterilised. Subsequent experiments showed when pure cultivations of a number of soil organisms were prepared that these rapidly cause the typhoid bacillus to die out, or at least prevent its increase when the two species are mixed together. The next chapter in this interesting story of the habits of micro-organisms is contributed by Dr. A. C. HOUSTON who inoculated soil with certain microbes in order to ascertain whether the effect of the soil was detrimental to their growth. The indigenous bacillus prodigiosus proved as a result of a single sowing able to maintain its existence, though in diminishing numbers, in the soil during a period covered by months, whereas the exotic KOCH'S vibrio, though repeatedly sown in large numbers over several square feet of surface, could with difficulty be recovered from the soil after the lapse of a few days. The results, though not conclusive pending a greater variety of experiments being made, are of great interest in connexion with cholera epidemics and their relation to the soil.

Dr. HOUSTON further communicates a very valuable paper on the chemistry and bacteriology of the washings of soils in relation to the question of excremental pollution. Dealing with artificial flood waters his results would seem to indicate that chemical tests are once more open to doubt as to whether they may be relied upon to discriminate old from recent pollution. On the other hand the invariable presence of the bacillus myccides in great abundance in soil waters brings bacteriological methods again to the front as a means of detecting impurity. Further, pure potable waters, whether filtered or unfiltered, either do not contain this organism at all or contain it only in small numbers. Therefore the presence of bacillus mycoides, though a non-pathogenic organism, implies the presence of surface washings of soil and not improbably the washings of cultivated soil, and in the case of a filtered water the presence of this microbe, adds Dr. HOUSTON, points strongly to the overtaxing of the filters with flood water. To sum up this portion of the inquiry, the results obtained clearly show that chemistry cannot always be relied on to detect in a water-supply the presence of flood water, much less of flood water of an objectionable or dangerous sort, whereas the bacteriological method yielded at all events results of an encouraging nature.

Finally, Dr. HOUSTON adds a note on the bacterioscopic examination of drinking-waters in which he refers to the impetus quite recently given to the bacterioscopic analysis of water by the discovery by Dr. KLEIN of the anaerobic pathogenic spore-forming organism, termed by him the bacillus enteritidis sporogenes. Dr. HOUSTON says it is safe to anticipate that this discovery is destined largely to enhance the value of bacteriological testing applied to potable waters. He, however, lays great emphasis upon the presence of streptococci which, he urges, is positive evidence of a sort which goes far to justify the bacteriologist in condemning a sample of water as unfit for domestic use.

It is difficult to over-estimate the value and importance of these ably-conducted researches. Their relationship to the elucidation of great public health questions is obvious, and it is gratifying to find that the Local Government Board have determined to approach these subjects in the masterly and scientific spirit shown in the last report issued by their regretted medical officer, Sir RICHARD THORNE.

Annotations.

"Ne quid nimis."

THE CONSTRUCTION OF UNDERGROUND RAILWAYS CONSIDERED FROM A SANITARY STANDPOINT.

THE practice of burrowing in the earth in order to provide means of transit to relieve the congestion of traffic overhead and to afford opportunities of more rapid travel from point to point is, comparatively speaking, of modern origin. There are, however, indications that both in the metropolis and elsewhere the practice is likely to be a growing one and that hence it may be well to take note of any suggestions tending to the conclusion that underground operations of this nature require to be carefully supervised and regulated. We are not proposing to discuss here the influences which under certain conditions a temporary sojourn in a badly-ventilated, ill-lighted, smoke-reeking, underground atmosphere may exert upon the well-being of those whose almost daily habit it is to travel to and from their work under these conditions; nor do we propose to consider how far such influences may be modified by a well-ventilated channel in which no combustion of coal is allowed and in which the motive power is supplied by electricity. Our purpose is to consider whether

the construction of underground channels such as those referred to may be likely in however small degree to lead to danger to the public health. We are led to these reflections by an article which we publish in another part of the present issue and which has for its subject matter "The Central London Railway and the Level of the Subsoil Water." As the writer points out, he deals with possibilities alone; he steers clear of dogmatic statements and hence his suggestions are the more worthy of consideration. It is, however, clear that the writer's reflections are by no means so overdrawn as perhaps some may at first sight conclude. Briefly stated, question is raised as to whether in London the construction of an underground channel, of which the Central London Railway may be taken as a type, may lead at any rate in parts to certain changes in the level and nature of the subsoil water. Generally speaking the subsoil water is held up as it were by the great bed of London Clay which is found so extensively in the "London Basin," and the writer of the article under consideration wonders in passing whether possibly there may, at points where the London Clay is thin, have been brought about by the operations necessary to construct the railway some communications between the subsoil water overlaying the London Clay and the Woolwich and Reading beds which are found so extensively beneath this formation. It is perhaps open to doubt if any great danger might be expected from an occurrence such as this, inasmuch as the chances of the polluted subsoil water reaching that great underground reservoir of water in the chalk formation are, having regard to the nature of the Woolwich and Reading beds, sufficiently remote, and under any circumstances extensive filtration would probably have taken place even were the passage of water through the beds physically likely. But apart from this, question may arise as to whether the settlements which are alleged to have taken place at certain points along the line of the railway may not have led to some lowering of the level of the subsoil water thereabouts or *vice versâ*. It would, however, be difficult to determine the effect upon health of such lowering even if the medical practitioners whose patients reside along the line of the railway had their attention drawn to the possibility. There is another direction in which the construction of underground channels, even when all modern precautions against settlement are supposed to have been taken, may be theoretically expected to exercise some influences upon health. In the present instance we read of cracked pavements and of cracked walls, some such disturbances taking place shortly after the excavations were made, others at a more remote period. A legitimate inference from these statements seems to be that the integrity of the sewers, drains, and gas and water mains in the vicinity of these settlements may have been severely tried, and by these means, if in any instance fracture has occurred, a polluted subsoil or subsoil water as an inevitable result. In these aspects the article to which we refer is full of interest to Londoners and to those concerned with public health problems, and as such we may commend it to their consideration. Moreover, the sad accidents which have recently taken place in connexion with the Paris Exhibition, and which are alleged by some to be related to underground operations, would seem to engender reflections in this direction.

CHANGES IN THE MEDICAL STAFF AT UNIVERSITY COLLEGE, LONDON.

SEVERAL changes have recently taken place in the medical staff of University College. Dr. Sydney Ringer has retired from the Holme Professorship of Clinical Medicine and has been succeeded by Dr. F. T. Roberts. Mr. Christopher Heath has resigned the Holme Professorship of Clinical Surgery and is succeeded by Mr. Rickman J. Godlee. Dr. Ringer and Mr. Heath have been appointed consulting physician and consulting surgeon respectively to University College Hospital. Dr. Roberts on taking up the Holme Professorship has resigned the Professorship of the Principles and Practice of Medicine and the council have selected Dr. G. Vivian Poore to succeed him on the ground of "his eminence as a physician and his acknowledged excellence as a lecturer both as regards the selection and arrangement of material and his power of exposition." Dr. Poore will enter on his duties as Professor of Medicine at the beginning of next session. Lastly, Dr. H. Batty Shaw has been appointed an assistant physician to University College Hospital.

MR. TREVES AT THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THERE was, as might have been expected, a great gathering of Fellows and visitors at the above society on Tuesday evening last when Mr. Treves read a paper (the main points of which will be found at p. 1359) embodying the results of his recent experience at the seat of war in South Africa. When we say "read a paper" we should qualify this by adding that Mr. Treves occasionally referred to his MS., as he turned over its leaves simply to remind him of the more prominent points which he desired to bring before the meeting. What he had to say was most interesting and instructive and had the merit of being largely novel and of being admirably delivered and well illustrated throughout. There is no need, even were it possible within reasonable limits, to take up all the points brought forward seeing that the paper bristled with fresh and suggestive matter and will be read with interest. We must confine ourselves to a few brief and descriptive comments. Mr. Treves described the various projectiles used in the war, the nature and character of the wounds which they caused, and the theories and conclusions regarding the injuries inflicted by the rifled arms used in modern warfare set forth in text-books on the subject, and in effect went on to say that the result of his observations was that the war in South Africa had revolutionised all our previous knowledge; that much of what had been laid down for our guidance was either altogether wrong or, at any rate, required to be much modified, according to the experience obtained in the present war; and that, in fact, an altogether new treatise on gunshot wounds required to be written in the light of our present experience. Notwithstanding that the recognised factors in a formula for calculating the effects of modern rifle missiles on animal structures may be theoretically correctly stated the conditions actually present at the time and where living tissues are concerned may be such as to vitiate or materially modify the results. We do not know whether we understood Mr. Treves aright, but we think that most authorities hold that the main object desired to be accomplished in modern warfare by rifled weapons, such as the Mauser or Lee-Metford, is to place as many soldiers as possible *hors de combat* and render them ineffective for the rest of the campaign and that the fatality or severity of the wounds inflicted within given ranges is of quite secondary importance. A vast amount, by the way, of misapprehension exists as to the amount of primary hæmorrhage attending ordinary gunshot wounds; it was never, perhaps, an important or frequent occurrence in the past and is generally quite insignificant with the weapons used in modern warfare. Still, among the killed and fatal cases of wounds hæmorrhage is, we suspect, often the immediate cause of death. As we have already said, the ideal for the wounded on the battlefield is that the hospital should be taken to the wounded instead of the wounded to the hospital, but unhappily this is impracticable and the application of the first-aid antiseptic dressing with the least possible interference with the wound or the

individual is the best that can meanwhile be accomplished. As regards what Mr. Treves had to say about wounds of the abdomen it struck us as being sound, well-reasoned out, and practical. That the results of battle-field laparotomy are most disappointing is not to be wondered at under the circumstances. We have from the first declared that operative interference in such cases must have a very limited application indeed under the conditions that obtain in war. The fact that so many recoveries have taken place in such wounds when caused by the Mauser bullet in Mr. Treves's experience is a new and important point. We are glad to have his corroborative testimony as to the favourable effect of previous abstinence from food and enforced rest on the battle-field whilst the wounded are waiting to be removed from it in such cases, in other words, absence of all movements together with physiological rest. The Mauser is, on the whole, a more merciful missile than that of the Lee-Metford, but both inflict far less serious injury than did the weapons of the past. In mitigation of the sufferings of the wounded who had to remain unaided on the battle-fields of the past there is this to be said, that they were spared the meddlesome interference of the incompetent whilst Nature had the chance of doing her best. It is needless to add that we have only cursorily touched the fringe, as it were, of the subject on which Mr. Treves dilated so well and instructively at the Royal Medical and Chirurgical Society's meeting.

THE TENURE OF OFFICE OF MEDICAL OFFICERS OF HEALTH.

IT has always seemed an anomaly that while the principal Poor-law officials, among whom are medical officers, hold office permanently, or if dismissed from office can appeal for reinstatement to the Local Government Board, those officers of local authorities who are appointed under the Public Health Act may be elected for a term of years varying from one year upwards, and at the end of this period the electing authority without appearing to dismiss their official may actually do so by appointing some other person in his place. However conscientious an officer may be he is not likely to do his work any better if he feels that he must "keep the right side of" certain members of his authority and the feeling of irritation engendered thereby only lessens his usefulness to the community which he serves. These remarks apply more especially to health officers, and if security of tenure of their offices should be granted to any public officials it should certainly be to these, as from the very nature of their work they are more likely than any of their colleagues to provoke the hostility of prominent ratepayers or of members of the body by whom they are elected. Instances of the capricious removal from office of medical officers of health have been frequently recorded. The latest example reaches us from South Wales where in the thriving mining town of Maesteg, which has a population of some 14,000 persons, the urban district council decided last week by six votes to four to dispense with the services of Mr. Wyndham Randall who for five years has acted as their medical officer of health and to appoint another gentleman in his place. This dismissal could hardly have been owing to lack of experience in public health matters, for Mr. Randall has been medical officer of health to a neighbouring district for 15 years and for a long period to the town of Bridgend. It cannot be said, too, that the Local Government Board were dissatisfied with the work he had accomplished, for when he was reappointed by the Maesteg Council three years ago the Board stated that it was prepared to sanction his appointment permanently. Before approving the district council's new nominee the Board will surely require the strongest evidence to be placed before it that the proposed change is necessary and desirable. The true reason for the dismissal of Mr. Randall is doubtless to be found in the fact that he has been courageous enough to point out to his council what steps should be taken to improve the sanitary condition of the town, in which we may note incidentally the death-rate from typhoid fever last year was three times as high as in the rest of the country. His suggestions have been reiterated year after year and some of the members of the council may possibly think they can shirk their duty to their constituents by closing his mouth. It is the conduct of such gentlemen as form the majority of the Maesteg District Council which has rendered necessary Clause 2 of the Medical Officers of Health and Sanitary Inspectors' Bill which has been introduced into Parliament by Dr. Farquharson and which is down for second reading on May 16th. This clause provides that officers of health (including in this term medical officers of health and sanitary inspectors) shall hold office until they die, resign, or become insane, or are removed by, or with the consent of, the Local Government Board. The Board is practically committed to the principle of this clause, for of late years not only has sanction been given to the permanent appointment of medical officers of health, but many local authorities who have fixed definite periods have been advised to appoint permanently.

UNFIT HOUSES.

IN THE LANCET of Jan. 28th, 1899, p. 246, we commented in an article headed as above upon the Gilbertian situation which had arisen in the parish of St. George-the-Martyr, Southwark, with reference to the street known as Red Cow-alley. So far back as November, 1895, some cottages in this street were closed and dismantled by a magistrate's order but were not pulled down. In November, 1898, the Vestry of St. George's made an order on the representation of Dr F. J. Waldo, the medical officer of health, that the houses should be pulled down. This order was made in conformity with the provisions of the Housing of the Working Classes, Act, 1890. The owners of the property appealed against this order to the Court of Quarter Sessions and the appeal was heard on Jan. 13th, 1899. Mr. Frank Gover, who appeared for the owners argued with an ingenuity which did him infinite credit as follows. The word "dwelling-house" in the Act under which these houses are ordered to be demolished means an inhabited house. Nobody lives in these houses, *ergo* they are not dwelling-houses, *ergo* they cannot be pulled down under this Act. The court was struck by this quibbling and agreed to state a case and the houses remained as they were until November, 1899, when Mr. Justice Ridley and Mr. Justice Darling sent the case back again to the Quarter Sessions to determine how much of the premises was a danger to public health. At the meeting of the quarter sessions in January, 1900, Mr. Gover stated that portions had been demolished and the drains sealed. The case was adjourned until February, and the Vestry having inspected the premises declared that they were not satisfied. On the day for hearing the owners were only represented by a solicitor's clerk and the chairman adjourned the case till March. March arrived and the chairman, Mr. Loveland Loveland, decided to inspect the houses in the company of sanitary experts. Who these experts are is unknown to the Vestry. However, the inspection came off and Mr. Loveland Loveland delivered judgment, which was duly reported to the Vestry on April 24th. The court makes no further order for demolition and each side pays its own costs! Such is the mouse of which the mountain of five years' hard work on the part of Dr. Waldo and the Vestry, together with much solemn legislation, has brought forth. The decision may be law but it is neither justice nor common sense. We are glad to

see that the facts of the case are to be laid before all vestries and boards of works, and it is to be hoped that a question will be asked on the matter in the House of Commons. There is one bright spot in this miserable story and that is that the owners of the slum property are getting no rent.

PREVENTION AND TREATMENT OF TUBERCULOSIS.

THE annual meeting of the Leicester and Leicestershire Branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis was held at Leicester on April 27th under the presidency of Sir Thomas Wright, chairman of the Executive Committee. At the outset the chairman read a long and interesting letter from a gentleman bearing eloquent testimony to the efficacy of the means recommended by the association and describing the case of his wife who a little more than a year ago developed decided symptoms of phthisis. In March last year it was arranged for her to undergo the open-air treatment at Bexhill-on-Sea and the results were said to be marvellous. She rapidly lost her cough, regained flesh and strength, and in six months was practically cured, although it was found that she had two considerable cavities in the lung. She now weighed nearly 4 st. more than she did a year ago and was in perfect health and strength. District councils have the power under the Dairies, Cowsheds, and Milkshops Order of 1885 to make regulations for securing the inspection of dairy cattle and milk stores, and on account of the dangers connected with the use of tuberculous milk the Executive Committee had made inquiry of every urban and rural district council in the town and county of Leicester as to whether they availed themselves of this power, with the result that it was found that 18 councils had drawn up regulations and seven had not. The committee hoped to influence the latter to make regulations on the lines of the model regulations of the Local Government Board. The question of starting a sanatorium in connexion with the Leicester branch of the association had been considered but allowed to stand over for the present. A letter was addressed to all the sanitary authorities in the county asking if they would be willing to disinfect rooms occupied by consumptive patients, especially after the fatal termination of a case, and a number of replies in the affirmative were received. Dr. R. Pratt, in seconding the motion for the adoption of the report, pointed out that most of the work so far done by the local branch of the association had been of an educational character. Sir James Crichton Browne then addressed the meeting on Consumption and Tuberculous Diseases and their Cause and Prevention. After observing that it was the discovery of the tubercle bacillus that had made feasible and practicable the present crusade against consumption and other tuberculous diseases he remarked that no "splendid isolation" was possible in the case of science which, on the contrary, drew the nations together and associated them in the furtherance of universal human interests. Here they had France, England, and Germany engaged in generous rivalry, harmoniously coöperative in their endeavours to stamp out these great scourges of the race. The society under whose auspices they had met that day hoped by the diffusion of sound knowledge, and by the awakening of public interest, gradually to restrict the depredations of such maladies and finally to banish them altogether from these islands. During the last 60 years there had been an enormous decline in the mortality from pulmonary consumption. In 1838, out of every 10,000 persons living in England and Wales 38 died from the disease, whereas in 1898 (the last year for which returns were available), of every 10,000 persons living only 13 died from it. Providing that the same rate of diminution was maintained for another 30 years, pulmonary consumption would have entirely disappeared. In the county and town of Leicester the reduction in phthisis during the last 60 years had been even more satisfactory than in the country at large. Taking all forms of tuberculosis together he found that in the five years 1864 to 1868 they were responsible for 33 deaths annually in every 10,000 of the population of the borough of Leicester, whilst in the five years from 1894 to 1898 they caused only 18 deaths per 10,000 of the population. He believed that the decline in the mortality from pulmonary consumption would be maintained in the near future as it had been in the past. Already the diminished death-rate from tuberculous diseases meant a saving of 75,000 lives per annum. With respect to the preventive and remedial measures it was necessary to guard carefully against the contamination of butcher's meat and milk. The striking immunity from tuberculous disease enjoyed in all ages by the Jewish race must be attributed in some measure to the rules as to dietary laid down by Moses, and to the still stricter ordinances of the Talmud as to the examination of the carcasses of all animals used as food. An important reform in our present system would be the abolition of all private slaughter-houses and the provision of municipal abattoirs so that all meat sold might be subjected to skilled inspection. Having dwelt at considerable length on the precautionary measures necessary to secure a milk-supply free from contamination, Sir James Crichton Browne said that tuberculous diseases were scarcely hereditary in the ordinary sense and yet they ran in families. It was quite possible that the bacilli might pass from a tuberculous mother to a child and be born with it, but such an occurrence must be exceedingly rare. Among animals there were only certain species in which tubercle would become domiciled. Sheep, asses, and goats were almost immune from it, while the bovine tribe was peculiarly susceptible. Within the human species there were certain constitutions of body, racial or temperamental, that were specially predisposed to tuberculous disease. It was rarely encountered in Nubia, Upper Egypt, Syria, Arabia, and Persia, but it was disastrously common amongst negroes and in Western Europe. Large allowances must be made for differences in climate and habit of life, but he believed that certain races were constitutionally prone to it whilst others were more resistant. The modern treatment, initiated at Nordrach and Falkenstein, which had now taken firm hold in this country, consisted mainly of fresh air and sunlight with a liberal nourishment and medical supervision. If they would only bear in mind that consumption, with its tuberculous confederates, killed upwards of 60,000 persons in England every year, he thought they would be up and doing, eager to help in the good work of the prevention of tuberculous disease. On the motion of Dr. F. M. Pope the Council and the Executive Committee of the branch were re-elected. Votes of thanks concluded the meeting.

THE LAW ON PARENTAL NEGLECT.

A RECENT conviction in the West London Police-court brings into prominence the legal responsibility of parents for the safety of their children. The case was not one of intentional cruelty but of mere indolent neglect. A mother continued, in spite of repeated warnings and protests on the part of neighbours, and even after one very narrow escape from burning, to leave two young children alone in a room with a fire which was unprotected by a fire-guard. After a time that which could hardly have been unexpected happened, one child was fatally burned. Only one decision was possible in the circumstances and the unhappy mother was sentenced, in accordance with the Act for the Prevention of Cruelty to Children, to a term of imprisonment with the option of a fine. This case is instructive, not only in connexion with others of

the same kind, but in its relation to more subtle but not less injurious forms of neglect. It shows how, by a judicious use of the existing law, special legislation, with all its cumbrous intricacy, may to a large extent be dispensed with. Another most mischievous practice is that of overlying. To what extent this is attributable to neglect and how far to wrong intention will always remain an open question, but the law relating to neglect should cover every doubtful case. If this fact is remembered and acted on by coroners and their juries we may reasonably expect an early and considerable diminution in the present high death-rate from "accidental" overlying.

DEATH OF A DISTINGUISHED FRENCH CHEMIST.

M. GRIMAUX, whose death was announced last week, was known to his French *confrères* as the politician chemist. His studies related chiefly to the constitution of matter, to the position of atoms and molecules and to their relative weights. M. Grimaux, too, will be remembered for his very interesting literary contributions, amongst which was an important document relating to the death of that great chemist Lavoisier. As is well known, Lavoisier was impeached under the Reign of Terror and condemned to death and executed in the spring of 1794. The nature of the real charge was never clearly known until M. Grimaux published his work on the great chemist. Personal spite seems to have been a factor, but in the sentence which was passed after an imprisonment and inquiry extending over five months it was stated that he was condemned to death as convicted of originating or participating in a plot against the French nation the aim of which was to aid the enemies of France. Especially was it stated that he had practised every kind of extortion upon the people and had caused tobacco to be admixed with water and pernicious substances to the detriment of the health of the citizens who used it. A more unlikely charge than this against one of the principal founders of chemical science and one of the most faithful searchers after the truth could hardly have been formulated. M. Grimaux, even with this warning in front of him, associated himself very keenly with political affairs and was a conspicuous believer in the innocency of Captain Dreyfus and was a vigorous supporter of M. Zola's contentions.

THE ADMINISTRATION OF CHLOROFORM TO DOGS.

UPON several occasions we have noticed in these columns the results of a series of observations on the above subject which have been published from time to time in the *Journal of Comparative Pathology and Therapeutics* and the *Veterinary Record* by Professor Hobday of the Royal Veterinary College. In the current number of the first-named journal this gentleman continues the series in an article entitled "A Report upon 800 Consecutive Administrations to Canine Patients." The main object of the observations, as stated by the writer, is to do away with the prevalent idea that the dog cannot be chloroformed with any reasonable degree of safety. The present list contains statistics of 300 cases; the age, breed, condition, operation performed, time taken to anæsthetise, and period of complete anæsthesia are all carefully noted. References are given to journals where the other 500 cases can be found. The dogs were consecutively taken and not in any way chosen or even prepared; they were of all ages, sizes, conditions, and breeds, being mainly animals brought by poor people to the free out-patients' department. The operations were of all kinds, some animals being merely chloroformed for x-ray work and others for such operations as amputation, oöphorectomy, reduction of hernia, hysterectomy, enterotomy, &c. The students, under supervision of course, were the anæsthetists and most of them before entering the college had never seen a dog chloroformed. Methylated chloroform was administered and any that was unused was saved and used on a subsequent case. Out of the whole 800 cases only three deaths occurred and post-mortem examination gave ample explanation for the fatalities in two instances, whilst in the third unfortunately no post mortem was made. In nine others symptoms of danger appeared, but antidotal measures were successfully adopted. The latter consisted of the application of Scheele's hydrocyanic acid in full medicinal doses to the back of the throat, artificial respiration, continued withdrawal of the tongue in a jerky manner as far as possible out of the mouth, and the inhalation of strong ammonia vapour. Professor Hobday in concluding his article says: "Had the patients been selected and prepared, and anæsthetised with the purest chloroform administered by skilled anæsthetists, the percentage of fatalities must have been much smaller still." The publication of statistics of consecutive cases must greatly assist in banishing from the mind, not only of the medical profession but also of the lay public, the idea which is certainly held in many quarters—viz., that the dog is not a good subject for chloroform. Apparently canine patients are excellent subjects to anæsthetise if only rational methods of securing and of administration of the anæsthetic are made use of.

PLAGUE IN AUSTRALIA.

THE plague statistics in Sydney for the week ending March 31st were as follows: admitted 23; died, 6; remaining under treatment at the beginning of the week, 19; remaining under treatment at the end of the week, 36. Up to March 31st the total cases were 54 with 17 deaths. The total "contacts" isolated were 270 in number. The great majority of the cases were connected by place of occupation with the infected area. Not all, however, were so connected directly; in several cases, while their place of occupation was outside it, though not far outside, there was ground for suspicion that their infection arose from articles of merchandise drawn from stores within it. The infection, if due to merchandise, must have been conveyed, not by rats in it, but by adhesion of infectious material to it. The small area quarantined contained about 175 dwellings and business premises and rather less than 700 permanent inhabitants on from 12 to 14 acres. It was dealt with by the chief sanitary inspector of the Board of Health and a staff of 28 temporary inspectors under him, in conjunction with about 750 men under the direction of a well-known contractor engaged to control and direct them. Something short of 2000 loads of filth were removed, including in some cases a few inches of filthy soil, and some 20 dwellings were pronounced to be unfit for human habitation. A 5 per cent. solution of sulphuric acid was freely used to water the soil-yards and roadways. The interruption to trade was great—one store, bonded and free, was said to have nearly £500,000 worth of goods in it, and there were several others of nearly equal size—but there was no opposition to the quarantine. The question of continuing operations on the same lines throughout the worst parts of the city was under the consideration of the Government and would probably be affirmatively answered. The bill, which would be considerable, would be presented later. Trade was beginning to feel the effects of the fright; and the connexion between most of the cases and the areas alluded to was such as to show that the measure was a good one and perhaps the only one available. The word "quarantine" was used in this connexion chiefly because the work was done summarily under quarantine law; in reality traffic was merely stopped, and ingress of sight-seers was prevented, without which the cleansing could hardly be thoroughly or expeditiously done. The

Government adhered to its policy of isolating "contacts," and directed warehouses and factories to be quarantined as soon as more than one case had occurred among the employés. These steps were not advised by the medical department; but sometimes governments were obliged to act on grounds which were not logical. Seven cases occurred in inoculated persons, the attack being on the first, second, third, third, fourth, fifth, and seventh days after inoculation. In one of them the attack (occurring on the fifth day) happened to be extremely mild although unmistakeable. There was here some evidence that the inoculations reached a considerable proportion of the persons whom it was especially desired to protect. The maritime quarantine station was in imminent danger of being overtaxed, and no other resource had been provided, the Government having declined the board's proposition made about a month previously to empty the Coast Hospital (280 beds).

MARK AKENSIDE.

IT is pleasant to be reminded of the children of genius in our profession. It was of Mark Akenside and of his modest medical reputation in London—"the proper place for a man of accomplishments like his"—that Dr. Johnson wrote his well-known lines: "A physician in a great city seems to be the mere plaything of fortune; his degree of reputation is for the most part totally casual; they that employ him know not his excellence, they that reject him know not his deficience." The *Newcastle Weekly Chronicle* of May 5th contains the report of an interesting paper on Akenside read by Mr. John Wergе before the Hampstead Historical Society, illustrated with pictures of Akenside's Newcastle home, as well as of the house at Hampstead of his faithful and valued friend, Jeremiah Dyson, better known to the present generation in its reconstructed form as the house of the late Sir Spencer Wells. Here Akenside lived for a time; and to this house he repaired in later years for refreshment and convalescence.

> "Thy verdant scenes, O Goulder's Hill,
> Once more I seek; a languid guest,
> With throbbing temples and with burden'd breast,
> Once more I climb the steep aerial way."

It is pleasant to know that these "verdant scenes," which for all time are secured as a refreshment for weary Londoners, will for an equal period be associated with the names and with the genius of men of our own profession.

DIAGNOSIS OF IMBECILITY AND WEAK-MINDEDNESS IN YOUNG CHILDREN.

THIS is a subject of considerable importance as it is one of difficulty. In a recent number of the *Deutsche Medicinische Wochenschrift* Dr. Martin Thiemich calls attention to the methods of testing for pain (cutaneous sensation) and for the sense of taste, both points of great diagnostic value in determining whether any marked degree of idiocy or imbecility is present. The sense of pain can be tested by pricking with a pin, and if delicate shades of analgesia are to be determined the pressure can be graduated either by hand or by the use of a special algesiometer. Various grades of analgesia may thus be found. The sense of taste should be tested by the use of ¼ per cent. solution of saccharin, 2 per cent. solution of sulphate of quinine, 2 per cent. solution of hydrochloric acid, and 5 per cent. solution of common salt to determine the respective sensations for sweetness, bitterness, acidity, and saltness. The reactions of the child both as regards facial and oro-lingual expression and as regards general reactions to these tastes should be noted. It is needful to be certain that no intercurrent ailments, such as rickets, a choreic condition, or gastro-intestinal irritations, are present, as these may considerably modify the reactions to both painful and gustatory stimuli. If visual and auditory stimuli call forth varied appropriate reactions only a minor degree of imbecility can be present or the mental condition may be normal. Any serious defects in these respects would point to corresponding degrees of imbecility, while the absence or deficiency of the gustatory and cutaneous (pain) sensations would point rather to the more profound degrees of idiocy or of imbecility. As regards bodily condition, it must be remembered that some idiots and many imbeciles are well developed and may be quite free from paralysis or other gross defects or deformities. Further, it is important to note the relative amount of attention which the child gives to various objects or stimuli, and the length of time during which attention persists. In many idiots and in most of the lower grade imbeciles attention cannot be fixed except momentarily. The times at which the child has learned to attend to, and control, its habits of defecation and micturition are to be inquired into, due regard being had to its social environment and its upbringing. Thus some children may not be well trained and brought up in these habits for the first three or four years of life, yet may be otherwise of ordinary intellectual grade. In this connexion it will be necessary to exclude the part which polio-myelitis or cerebro-spinal disease may play when present by paralysing the sphincters. The facial aspect, whether stupid or intelligent, whether apathetic or observant, whether vacant and stuporose, with lax jaws and dribbling of saliva or free from such manifestations, must also be noted. Such unfavourable symptoms as slobbering and stupidity of expression should always rouse suspicion. It is well also if the general bodily nutrition is feeble to wait until it improves under treatment before a diagnosis or prognosis of the mental conditions is attempted.

THE INTERPRETATION OF THE SALE OF FOOD AND DRUGS ACT, 1899.

So far it would appear that there has been no very striking feature in connexion with proceedings taken under the Sale of Food and Drugs Act since the important addition to the statute law came into operation this year. This is somewhat surprising, for, as we have pointed out, some considerable alterations in, and additions to, the law relating to the sale of food and drugs were thus made. The real effect of the additional legislative power which the new clauses have given will only be seen when the annual report of the Local Government Board containing the reports of the public analysts and their work for the present year is issued, and for this we must wait for some time. In the meantime it would be well if public analysts and others concerned in the administration of the Act would turn their attention to the legal aspect of the new clauses. In this connexion we should like to point out that an excellent little book has been published giving, not only a history of interesting cases in the past, involving such subjects as the question of standards and points of procedure and other matters bearing upon the working of the Act, but also a summary of the important changes made by the Act of 1899. It thus affords a very handy legal guide to the public analyst and others who are engaged in carrying out the Sale of Food and Drugs Act. It should be of particular service to them when proceedings are undertaken and when they may be expected to give evidence. The book is edited by Sir William J. Bell, LL.D., barrister-at-law, of the Inner Temple, and H. S. Scrivener, M.A. Oxon., barrister, of the Middle Temple, and is published by Messrs. Shaw and Sons of Fetter-lane. The compilation of cases dealing with definitions and terms will be of special interest and value to the public analyst, while not less so will be the sections on offences and defences, prosecutions and proceedings. We should have

liked to have seen added the recent declaration of the Local Government Board to the effect that practically the Fellowship of the Institute of Chemistry will be regarded as sufficient evidence of competency of an analyst, provided he has passed in the subjects of pharmacology and the detection of the adulteration of drugs which have recently been added to the Fellowship examination.

AN UNFOUNDED RUMOUR.

WITH reference to a statement in the "Money" article of a contemporary on Wednesday that "bubonic plague was rumoured to have appeared" in Glasgow we are glad to be able to announce on the authority of the medical officer of health of Glasgow that there is absolutely no truth in this rumour; indeed, there has been nothing even to suggest the presence of plague in that city. It is regrettable that the sensitiveness of the money market should give rise to such rumours which might be productive of much harm.

SMALL-POX AND VACCINATION IN EGYPT.

IN a recently published work[1] Dr. Engel Bey, the chief statistical officer of the Egyptian Sanitary Department, writes to the following effect: "The deaths of foreigners from small-pox are comparatively very numerous. ..... In December, 1891, vaccination was made obligatory on foreigners, but it is impossible to control the operation effectually, as the parents of children are under no obligation to report births." During the five years 1886-90, out of a total population in certain towns of Lower Egypt amounting to 1,125,475 natives and 101,253 foreigners there were among the first 791, and among the latter 220, fatal cases of small-pox. The figures do not represent a very high rate of mortality, but as they are due to an entirely preventable cause they are nevertheless excessive. The effects of vaccination in Egypt, where it was introduced in 1827 by Mahomed Ali the Great, are very noteworthy in comparison with the state of affairs in Algeria where vaccination is not obligatory. During four years (1887-90) the annual death-rate from small-pox in Algeria was no less than 16·85 per 10,000 inhabitants, whereas in Lower Egypt it was only 1·74. It would be well, however, Dr. Engel says, if revaccination were to be introduced into Egypt, the benefits therefrom being very observable in Sweden and Germany. In the former country, indeed, the terrible disorder may be regarded as exterminated.

THE RELATIONS OF THE GANGLIA ON THE POSTERIOR ROOTS OF THE SPINAL NERVES.

Comptes Rendus for April 9th, 1900, contains an article by M. Nicolas Alberto Barbieri on the connexions of the ganglia on the posterior roots of the spinal nerves. He states that in cats, dogs, rabbits, and guinea-pigs the unipolar or bipolar cells of the spinal ganglia do not form any connexion with the nerve tubes of the posterior roots. These cells can be dissolved by chemical means without in any way altering the form, contour, or even the continuity of the nerve fibres of the posterior roots. Each spinal ganglion contains from 200 to 500 cells, whilst the number of the nerve fibres that traverse the same ganglion is from 1000 to 3000. This number is about double that of the nerve fibres found in the anterior roots which varies from 500 to 1500. All the nerves of spinal origin contain a far larger number of fibres derived from the posterior than from the anterior root. If the nerve fibres of the posterior roots be counted it will be a matter of surprise to find besides the ordinary fibres others of smaller diameter enveloped by a thinner sheath of connective tissue, with less granular, more transparent, and almost limpid contents. On carefully detaching the anterior and posterior roots from a segment of the spinal cord with the ganglia and the ramus communicans of the sympathetic it may be seen that the 200 or 500 small fibres of the sympathetic constituting the ramus communicans divide into two branches almost at the lower border of the spinal ganglion. These branches penetrate the ganglion. The small fibres of the sympathetic, after having contracted an intimate connexion with the ganglionic cells, form connexions amongst themselves which are neither constant nor precise, interpose themselves at various points between the nerve tubes of the posterior roots, and terminate in the nerve cell by entering the posterior collateral fissure or groove. These small fibres of the sympathetic are also to be found amongst the roots of each cranial nerve. The medullary and encephalic origin of the sympathetic is thus satisfactorily established. The cells of the spinal ganglia are the cells of the sympathetic from which proceed the rami communicantes. The total number of the nerve fibres of all the roots of spinal nerves is in the rabbit about 70,000. This number is too small for the supply of all the tissues of the animal, whilst, on the other hand, it is too large to come into relation with the surface of section of the *collet du bulbe*. The posterior roots spring from the posterior collateral fissure by small fasciculi. Each fasciculus contains a certain number of nerve fibres and several fasciculi form a root; several roots form a radicular root. On the superior surface of each spinal ganglion are two or three radicular nerves which are separated from each other by the spinal dura mater. The posterior roots penetrate the ganglion in the condition of a nerve—that is to say, largely provided with connective tissue. The anterior roots which arise from the ventral collateral groove have an analogous origin. They unite externally and below the ganglion with the posterior radicular nerves to form the mixed peripheric nerve or proto-nerve. The mixed peripheric nerve of each pair of spinal nerves, after having given origin to the small meningeal branch, divides into two branches, the one anterior and large, the other posterior and small.

[1] Mortalité des Villes de la Basse-Egypte, Cairo, 1899.

MEDICAL CONFERENCE AT MANCHESTER.

AT a dinner given by 36 of the delegates attending the Medical Conference on May 2nd at the Albion Hotel, Manchester, a graceful compliment to Dr. J. G. Glover was passed by Mr. Wolstenholme in proposing a vote of thanks to Dr. Glover for his services to the profession. This was also commented on by Dr. J. Ratcliff-Gaylard in a short speech supporting the vote. Dr. Glover, in reply, humorously referred to the General Medical Council as a very proper subject for criticism. No one, he said, was better aware of the importance of some of the burning questions affecting the profession than members of the Council. Referring to the midwives question he held, he said, opinions different from those of some of his friends, but they lived in a free country and were members of a liberal profession and a difference in opinion should not impair their mutual respect. It must be obvious to them that it was difficult to know what were the real interests of the profession; they were so complicated and were more and more becoming so intricate that it was no easy matter to know exactly the position in which they really stood. As far as they could they strove to keep the profession high in its own estimation, in the opinion of the public, and in its efficiency. He quite recognised that the General Medical Council was faulty in its constitution and he would be glad to see more direct representation. While, however, they were waiting for that consummation let them try to give to the Council all the support they could, for even in the minds of those members indirectly elected there was a real feeling of interest in the profession. The

General Medical Council was doing good work. As an instance he cited its action with regard to the unqualified assistant, a class that was in course of complete obliteration. Dr. Glover concluded with an expression of his sincere appreciation of their vote of thanks.

THE NEW MEMBER OF PARLIAMENT FOR THE UNIVERSITIES OF EDINBURGH AND ST. ANDREWS

OUR forecast of the unopposed return of Sir John Batty Tuke as representative in Parliament of the Universities of Edinburgh and St. Andrews has been justified by the event. Sir John Tuke belongs to a family greatly distinguished for its knowledge of mental disease and for its services in the introduction of a more enlightened and humane treatment of the insane. His connexion with the General Medical Council dates back to the year 1887. He has been no idle member, but has been very active and independent in its discussions. For some years he has been chairman of the Education Committee and has taken the greatest interest in its work, especially during the last two years while investigations into the practicability of increasing the stringency of the preliminary examinations for medical students have been going on. He graduated in medicine in the University of Edinburgh in the year 1856; he is Vice-President of the Royal College of Physicians of Edinburgh and Fellow of the Royal Society of Edinburgh. We have every hope that in the discussion of many questions affecting public health and morals, education, prison discipline, the efficiency of universities and the like, Sir John Tuke will take a useful part, will justify the selection of his fellow graduates, and will vindicate the advantages of university representation.

PNEUMONIA IN MIDDLESBROUGH.

AT the meeting of the Middlesbrough Sanitary Committee which was held on May 2nd a letter was read from the Local Government Board in reply to a communication from the Middlesbrough Council as to whether the Local Government Board could say whether or no pneumonia was an infectious disease. The Local Government Board, however, refused to express any opinion and merely referred the Middlesbrough inquirers to certain reports published by the Board. Middlesbrough is at present suffering from a type of pneumonia which is apparently very infectious and the sanitary authorities were anxious to make it a compulsorily notifiable disease. The Sanitary Committee, however, could not decide as to whether they should apply to the Local Government Board for power to do this or not, but eventually it was decided, on the motion of Mr. Alderman Wilson, that the medical men of the town should be asked voluntarily to notify cases. The report of the medical officer, Dr. C. V. Dingle, for April showed that the death-rate for the month of April was equivalent to a rate of 31·34 per 1000 per annum, whereas the rate for the same period of last year was only 19·51. The increase was almost entirely due to pneumonia, which was responsible for 73 deaths out of 250. Councillor Roberts reminded the committee that the sanitary conditions in Middlesbrough were very far from being satisfactory, especially as regarded the midden privies. The modern tendency is to consider pneumonia as an infectious disease, and it is included among such diseases in the "Twentieth Century Practice of Medicine," Vol. XVI. Dr. A. H. Smith, the writer of the article on Lobar Pneumonia, says: "While pneumonia is undoubtedly a communicable disease it is not readily transmitted from person to person." In Allbutt's "System of Medicine," Vol. V., pneumonia is included among respiratory diseases, but Dr. William Ewart gives an analysis of 524 cases. Out of these he says: "In three cases only was there a possibility of infection from another case in the same house." It will be interesting to see the result of the notification, but it is to be hoped that the sanitary deficiencies pointed out by Councillor Roberts will be at once taken in hand.

THE PROFESSOR OF MEDICINE IN EDINBURGH UNIVERSITY.

DR. JOHN WYLLIE, the author of "Disorders of Speech," was elected on May 4th to the chair of Medicine in Edinburgh University. We congratulate Dr. Wyllie upon his appointment, and refer our readers to the letter from our Edinburgh correspondent for a *résumé* of his medical career.

A PRISONER IN THE PENINSULA.

OF the many people who will read Dr. Milman's Life of his father, a former Dean of St. Paul's,[1] not a few will be most interested in one of the appendices giving the diary of Captain Milman, brother of the Dean, which contains an account of his adventures in Spain after he had been taken prisoner by the French, and at the present time an account of the hardships suffered by prisoners appeals to an unusually large number of persons who will regret that the diary was not more full. The writer was evidently a man of great spirit, unwilling to dwell unduly on his privations and not wishful to harrow the feelings of his friends. At the battle of Talavera, which was fought on July 28th, 1809, Captain Milman was severely wounded and whilst still in the hospital there was taken prisoner by the French. He left Talavera on Oct. 7th and with the other English officers who were prisoners had to provide beasts to carry the baggage. Altogether there were about 60 prisoners, who were escorted by 200 men, and when, having marched 19 leagues in three days, they came to Madrid, they hoped to be well treated there. In this, however, they were disappointed. They were fed on black bread and the flesh of goats which was unfit for food. Captain Milman naturally did not in his home letter dwell in detail on the hygienic objections to unsound meat. When at its best goats' flesh is eaten with apparent relish by many people at the present day; and it is usually held by those who have studied the question that much of the lamb and venison of the Swiss *table d'hôte* has a capric origin, and that in its foreign dressing it is much appreciated by the inferior clergy. But the fact that goats' flesh and horseflesh are not considered normal articles of diet for the true Briton is evident. The muscular tissue of the ox becomes beef, that of the sheep becomes mutton before they are eaten, but the flesh of the horse and of the goat remain horseflesh and goat's flesh respectively. The present war, however, has given currency to at least one new word, "chevril," the bouillon of horseflesh. The goat given to Captain Milman, however, was not fit for the manufacture of bouillon; nor was the deficiency in the commissariat department the only thing of which he had to complain at Madrid, for he and his companions were not well treated in the matter of bedding. Dirty mattresses from the hospital, which were still covered with putrid blood, were provided for them to sleep on. They were, however, allowed to buy food from a neighbouring inn, but they had to pay very dearly for it. It seems that the badness of the treatment to which the prisoners were subjected was due to the fact that some English officers who had been extremely well treated and to whom Napoleon's brother, the King of Spain, had lent his carriage and given money, had escaped and taken ship for England. Captain Milman and his companions were not uniformly treated

[1] Henry Hart Milman, D.D., Dean of St. Paul's: a Biographical Sketch. By his son, Arthur Milman, LL.D. London: John Murray, Albemarle-street. 1900.

without consideration and in their journeyings across Spain they had some interesting adventures. Occasionally they took the law very much into their own hands. On one occasion they were "obliged" to thrash a waiter before he would give them a candle. At Villa Real they saw some fighting from a respectable distance. The fact that they had money was doubtless of the greatest advantage and they appear occasionally to have enjoyed excellent fare. Captain Milman was, however, much disgusted by a trick played on them by their hostess at Tolosa, who contrived to spoil a leg of mutton by cutting a large gash in it and letting out all the gravy. This reprehensible practice is referred to by Brillat-Savarin, who in his entertaining book gives an account of a man who made an excellent meal from gravy obtained from a joint which was being roasted before the fire and who rejoiced greatly at the fraud which gave him the best part of the meat at the expense of a curmudgeon gastronomist who was destined to pay for it. It may be useful to point out that a knowledge of this simple method of obtaining the most valuable part of the meat may be of great use to travellers in wild countries where cooking utensils may be wanting and where illness may make it impossible for anything but fluid nourishment to be taken by a member of the expedition. It cannot be too generally known that gravy derived from slowly roasted meat is of the highest nutritive value. Unfortunately a small quantity can only be obtained. The expense of the method therefore becomes very great and this fact alone is sufficient to prevent its frequent use in civilised life. On the whole, perhaps, Captain Milman and his companions, although they were treated with absolute brutality on some occasions, had a better time than the unfortunate prisoners at Pretoria are at present having, and certainly a less trying time than those who are at Mafeking in a state of siege.

THE NEW HOME OF THE UNIVERSITY OF LONDON.

PRESENTATION Day at the University of London fell on Wednesday, May 9th, and found the members housed for the first time in their new home in the Imperial Institute. The ceremony was attended by H.R.H. the Prince of Wales, who congratulated the University upon the successful issue of the delicate negotiations which had resulted in their finding themselves under the roof of the Imperial Institute building. Sir Michael Foster, M.P., the recently elected Member of Parliament for the University, spoke humorously as to the development in luxury of the University since the time when he himself "was examined in the street and had his degree conferred upon him by post."

PRESENTATIONS TO DR. CHARLES PORTER ON HIS LEAVING STOCKPORT.

ON the occasion of the recent severance of his official connexion as medical officer of health with the county borough of Stockport Dr. C. Porter, the newly-appointed county medical officer of health for Shropshire, was entertained to supper by the staff of the Health Department and was presented by them with a smoking cabinet. On a subsequent date Dr. Porter was the guest of the Corporation of Stockport at a complimentary dinner, during which the chairman of the Sanitary Committee handed to him an engrossed testimonial on vellum, bearing the common seal of the council and setting forth in appropriate terms his special services to the borough during his seven and half years' tenure of office. A few days later Dr. Porter was similarly entertained by the Stockport and District Medical Society, those present including most of the medical practitioners of the town, as well as the Mayor, the chairman of the Sanitary Committee, and the town clerk. The president (Mr. W. B. Bale) referred to the cordial professional and personal relations that had existed between Dr. Porter and the members of the society, and as a token of regard and good wishes for his future welfare presented him, on behalf of a large number of his medical *confrères*, with a silver rose-bowl, richly chased and suitably inscribed, together with a pair of opera-glasses for Mrs. Porter and an ornamental scroll bearing the names of the subscribers. In thanking them for the final mark of the kindness and goodwill invariably extended to him by his medical *confrères* Dr. Porter said that medical men were the salt of the earth and could exert a most important influence on the sanitary welfare of the community, their mission being educational and preventive as well as curative. He wished more of them would take an active personal interest in municipal matters.

THE Working Men's College, 46, Great Ormond-street, wish to start an ambulance class in connexion with the college and they are at present without an instructor. We have been requested to publish an appeal for a volunteer and do so with pleasure. The next term of the college will commence on May 21st and will last till July 27th. All the work is done in the evening, and should anyone volunteer to give the assistance wanted every effort would be made to fix a time to suit his convenience. Communications should be addressed to the secretary, Mr. E. C. Duchesne, at the college.

THE annual meeting of the Dermatological Society of Great Britain and Ireland will be held at 4.30 P.M. at 2 Hanover-square, on Thursday, May 24th. The new President, Dr. A. J. Harrison, will deliver an address, and Mr. William Anderson will introduce a discussion on Seborrhœic Diseases of the Skin, the Associated Constitutional Conditions, and the Treatment. Dr. Radcliffe Crocker, Dr. Stephen Mackenzie, and others will join in the discussion. Cases will be exhibited as usual.

THE Executive Committee at Paris reports that an arrangement has been concluded with the Commissary General by which members of the Thirteenth International Congress of Medicine to be held at Paris from August 2nd to 9th will be admitted free to the Exhibition. A special ticket entitling members to this privilege will be issued at the offices of the Congress from July 31st.

A CONVERSAZIONE will be given in the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W., on Monday, May 21st. There will be a reception by the President at 8.30 P.M. and an oration by Dr. J. Kingston Fowler at 8.45, subject: "Science and Medicine in the Eighteenth Century."

THE death is announced in his 57th year of Mr. John Neville Colley Davies-Colley, formerly surgeon to, and lecturer on surgery at, Guy's Hospital. Mr. Davies-Colley had been in ill-health for some time previously to his death. We shall give an extended notice of his career in a future issue.

THE death is announced of Dr. George Bird of Hampstead from pneumonia in his eighty-third year. When over 80 years of age he commenced bicycling and rode with ease and grace.

THE Craggs' Research Scholarship of £300 per annum has been awarded to Mr. G. C. Low, M.A., M.B., C.M., a student of the London School of Tropical Medicine.

T.R.H. the Prince of Wales and the Princess Christian of

Schleswig-Holstein have accepted copies of Mr. F. J. Gant's new book, entitled, "Mock Nurses."

H.R.H. the Duke of Cambridge will lay the foundation-stone of the new wing of the Victoria Hospital, Folkestone, on Saturday, May 26th.

CONFERENCE ON MEDICAL ORGANISATION AT MANCHESTER.

(BY OUR SPECIAL COMMISSIONER.)

THE Conference on Medical Organisation which was held last week at Manchester will have served at least this purpose—it will have conclusively demonstrated how much the medical profession is in need of organisation. The Conference was convoked by the Manchester Medical Guild and therefore it was natural to expect that the speakers would have dealt extensively with the methods and means of organising guilds and with the policy and action of such guilds. But the greater part of the debates might have been held by any other assembly of medical men whether belonging to a guild or not. Several resolutions were passed which certainly had no reference to medical organisation and will be approved by practitioners who belong to no organisation. These resolutions may be interesting or otherwise; they may be satisfactory as indicating a solution to certain vexed questions, but their adoption by an assembly of 50 medical men is of very little importance unless the representative character of these voters can be fully demonstrated. Now, the very first step in organisation is to organise the vote. It was said that the medical associations and societies represented had some 4000 members. This, for a beginning, is a very large figure, for the Manchester Medical Guild itself barely possesses more than 200 members. The fact is that some of the delegates represented branches of the British Medical Association, which is not a guild at all, and even the Hospital Reform Association only deals with a section, one item in the programme of the medical guilds and unions.

The Conference was a meeting of medical reformers who did not all represent organisations pledged to the same programme. Most of the time was spent in discussing grievances affecting the medical profession generally and but little was done in the way of organisation. The difference between discussion and organisation is that in the first case resolutions are passed declaring that this and that should be done, while in the second case resolutions are adopted showing how a wished-for result is to be obtained. Dr. S. Crawshaw did succeed in getting a resolution passed that was to the point. This demanded that medical unions or guilds should be formed in every district and should appoint delegates to attend an annual conference. Dr. E. Jepson of Durham, when he proposed that the medical unions or guilds should have provincial councils on the same lines as the National Union of Teachers and that efforts should be made to secure the election of two representatives of the medical profession to the House of Commons, was also speaking as a delegate to a union conference might be expected to speak. In France, as has been pointed out in THE LANCET, there is the medical group in the Chamber of Deputies and the Senate, supported by the French Medical Union, and good results have been obtained; but these results only ensue as the reward of long and patient organising. The mere meeting together to air grievances, deliver speeches, and pass resolutions will not do much. A secret sitting would have been more to the point; then the bareness of the land could have been investigated and exact statistics obtained as to the number of members who had signed pledges to observe the rules and who had paid subscriptions. The organisation would then have known of what it was composed; after that it would have been time to discuss what could be done and what was the best policy to pursue. That is what a conference of delegates means. A conference is not a congress. Only those who are invited attend a conference, and they are supposed to be pretty well agreed as to the object in view; otherwise why should they be invited?

The principle of forming unions throughout the country was approved by the Manchester Conference and proclaimed by the adoption of Dr. Crawshaw's motion. As the Conference was convoked by a union it would have been natural for the business to be opened by the adoption of such a resolution as a matter of form, and then the Conference could have discussed the very practical important questions arising from the difficulties that beset those who seek to form medical unions. To repeat myself, a great deal should have been said about medical organisation instead of about medical grievances. The latter are discussed on all sides; it is only those who have had actual experience in the management and work of medical unions who can discuss the question of medical organisation. However, this was the first large meeting of the sort and the fact that it has been held is in itself a hopeful symptom. But in future greater care should be taken to see that such meetings do not degenerate into general debating assemblies. A delegate meeting of medical unions should discuss the policy and organisation of the existing unions and the advisability or possibility of adding to their numbers. It is not its mission to hold a debate on general grievances, but rather to plan some specific action such as the unions can exercise on the line of least resistance in respect to one or more of such grievances.

THE WAR IN SOUTH AFRICA.

AT the moment of writing last week we said that there was little or nothing to be chronicled, but such is far from being the case now, for the advance of the British has begun in earnest and has already made important progress. Our readers have only to glance at the headlines summarising the war news from South Africa in their daily papers to note the change that has already taken place. The overwhelming strength of the British forces, their concerted movement in furtherance of a common object, and their increased mobility must inevitably have the effect of driving the Boers in front until the latter reach those defensive positions where they have determined to make a stand. Their limited numbers, the nature of their tactics, and their method of warfare will no doubt lead the Boers to adhere even more strongly and persistently than they have hitherto done to their plan of avoiding any engagement in the open and on a big scale. The war is not by any means over yet, but the end has from the first been certain, and it is distinctly nearer than it was, the only thing uncertain about it being the time it will take to bring it about. That will manifestly depend upon the number of places that have to be taken, the obstinacy with which they are held, the strength of Pretoria and the preparations which the Boers have made against its siege, and whether or not they have determined in any case to retreat to the mountains of the Lydenberg district and to maintain a guerilla system of warfare. On the other hand, it is quite possible—and there are many things pointing in that direction—that there may be a sudden and unexpected collapse of the Federal fighting power. Be all this as it may, time will soon show. The Boers have begun to appreciate the fact that their offensive power, as far as the southern portion of the Orange Free State is concerned, is at an end. There is still, however, a considerable body of Boers moving in the districts of Ladybrand, Ficksburg, and up to Thaba 'Nchu menacing our communications which will have to be disposed of. The advice and support which the Federal States have received on the part of the continental press to continue the war must turn out in the end to have been cruel kindness. We are extremely glad to believe that the prospect of the relief of Mafeking has distinctly improved. If happily it be soon accomplished the siege of Mafeking will have proved one of the most memorable on record. Sir Redvers Buller's large force is still inactive at Ladysmith, and we should imagine on hygienic grounds that the sooner it gets away from that neighbourhood the better, for there is stated to be, as might fairly have been anticipated in a sedentary force encamped there, a good deal of enteric fever and other diseases prevalent among the men.

Whilst on this subject we cannot forbear remarking that when the history of this campaign comes to be written a more appreciative and juster view will probably be taken of the value of the arduous work performed by the British forces

in South Africa at the beginning of the war than apparently exists at present in the minds of some people. Lord Roberts and Lord Kitchener have done much brilliant work, as everybody recognises; but it is scarcely fair to put it in comparison with what the Generals had to undertake previously with the very limited forces at their disposal and under most disadvantageous conditions. Lord Roberts, it must always be borne in mind, has had a very large and thoroughly equipped force at his command and every element of success in his favour, whereas Sir Redvers Buller and Sir George White had, as we know, little or nothing of the kind. Nevertheless, Ladysmith was successfully held and relieved, a general rising in Natal was averted, and the real strategical plan of the Boers to march a large force towards Pietermaritzburg and Durban was delayed and in the end thwarted. The conditions present at the beginning of the war and the effect of these operations, as it seems to us, have never yet been properly estimated and taken into account by newspaper critics. Reinforcements are still proceeding to the Cape and they will be all needed, for the loss and ineffectiveness entailed in men and animals and munitions of war where the area of its theatre is as large as in that we are now prosecuting, are enormous. The grand total in the last published official return of our casualties amounts to over 19,000. In addition 29 officers and 3101 men have been sent home sick (as distinct from wounded), which brings the aggregate losses of the army to over 22,000. On the other hand, a further number of officers and men have returned to duty from the hospitals. The mortality from disease shows an increase. It now stands at 42·1 per cent. of the total deaths.

Considering the enormous amount of work which this war has thrown upon the medical service in the field, the strain that it must inevitably have imposed upon the best medical organisation and hospital administration in the world, and the remarkably successful way in which the regular army medical service have met it, it is much to be regretted that a leading article which appeared in the *Times* of April 30th, *apropos* of the dinner given to Sir William Mac Cormac and Mr. Treves, should have been founded on an entire misconception as to the object and nature of the duties which they were sent out to the scene of war to undertake. It formed no part of the duty of these distinguished surgeons, it is needless to say, to provide for the organisation of the base hospitals and the supervision of the field hospitals or anything of the sort. To give them any credit in this respect would, we may be sure, prove distasteful to them because it deprived others of what they were indisputably entitled to and was little calculated to strengthen the very harmonious and helpful relationship which mutually existed between the military and civil medical elements in South Africa. Sir William Mac Cormac and Mr. Treves, as a matter of course, in their brief but emphatic letter to the *Times* of May 2nd disclaimed all credit in the matter. Their duties, they pointed out, were not in any way concerned with organising the medical arrangements of the campaign but were solely directed to affording professional advice and assistance as consultants to the army medical officers. They were (as everybody knows) able to testify to the admirable and effective organisation of the medical department of the army for which the officers of the medical service alone are responsible.

There was a very large gathering at the meeting of the Royal Medical and Chirurgical Society last Tuesday evening to hear what Mr. Treves had to say about his recent surgical experiences in South Africa and we are simply expressing the general feeling in saying that his audience had every reason to be satisfied. Mr. Treves gave a most interesting and instructive address which was, as it deserved to be, well received.

IMPERIAL YEOMANRY HOSPITAL.

BY ALFRED D. FRIPP, M.S., F.R.C.S.

EVERYTHING is going on very well indeed with us. We have taken in 220 more patients, half of them from the recent reverse near Bloemfontein and the other half from Naauwpoort, where the largest detachment of Yeomanry is stationed at the present time. There is another large detachment at Kimberley under Lord Chesham, now made a Brigadier-General, and there are still about 3000 at Cape Town—or there were a few days ago. All these latter will be pushed up country as quickly as the exigencies of horse-supply and transport permit, and it will not be long before the Yeomanry base camp there is reduced to some 300 or 400 occupants, for I know it is Lord Roberts's intention to utilise all the Yeomanry at the front at once. By the time this letter reaches you any allusion to the news of the moment will be very stale, but of course the reverse which has resulted during the last few days in the re-occupation of the Bloemfontein waterworks by the Boers very materially affects the position of this hospital, for it will influence the immediate future of the campaign very much. Thus, in the first place, it will delay Lord Roberts's onward movement from Bloemfontein, and in the next place it will make it so difficult to get forward the seven miles of trucks loaded with stores now congregated at Norvals Pont, that all the material and *personnel* of the various hospitals which are being held ready to be shot into Bloemfontein at the earliest possible moment will be unable to get through for some time yet, and will be unable to establish themselves in time to relieve the present state of congestion in the hospitals north of us. Those hospitals which it had been intended thus to send up are, of course, already packed and loaded on trucks and therefore they are useless for the present, and we find ourselves obliged to struggle to our utmost to battle with the numerous cases coming down (both from the Western border and from the Bloemfontein line) for which there is no room in the already over-filled hospitals at De Aar and Naauwpoort.

I found Cape Town last week fuller than ever. Not only has there been a steady influx of men who have come out in the hope of finding work "in any capacity" (most of them seem to think their best chance of getting up-country is to acquire the title of correspondent to some paper however obscure), and of ladies who have come out with their husbands or to await the return of their husbands from the front, but also many officers have dashed down from the front to Cape Town for a few days' change and well-earned rest. From these many most interesting anecdotes and stories of the pluck displayed by our men are to be heard. My chief object in going to Cape Town was to establish a small hospital at the Yeomanry base camp near Cape Town for the treatment of those cases which were not sufficiently bad to be sent 500 miles up country for treatment in this hospital. It is calculated that over 1 per cent. of all soldiers require treatment in hospital directly they arrive in South Africa. We have accordingly started a small "detention hospital," and so as to avoid delays which always arise in carrying any such a new departure through official departments we have provided some of the necessary money for its erection and equipment, but in view of the fact that it is impossible for us, 500 miles away, to take any responsibility for the way in which this hospital is conducted we have stipulated that it shall bear no connexion with the Imperial Yeomanry Hospital. Surgeon-General Wilson, Principal Medical Officer of the forces in South Africa, has accordingly named it the Mackenzie Farm Hospital (for Mackenzie's Farm, Maitland, is the site of the Yeomanry Base near Cape Town), and he has undertaken to provide the doctor the equipment, the orderlies, and all the necessary supplies, and to be responsible for the character of the work done in it. By this means I hope that the wants of the Yeomanry while situated at their base camp, will be more than adequately met. It is really rather amusing, and at the same time embarrassing, how each regiment of the Yeomanry, wherever they may be sent, are just a little hurt if they do not find our huge base hospital quite close to them. But we are a very large and a very immobile unit and we had to go where we were sent by the military authorities, but the report of the luxury and comfort of our establishment has spread throughout South Africa and every regiment, as I said, wishes we were nearer them. Those who are at Kimberley wish that we were there; those who have gone to Naauwpoort wish that we were there; those who are at Cape Town wish that we were there; and when they move up to some other advanced base they will wish that we were there. Unfortunately we are one hospital—not four or five. We have done all that we can by writing and telegraphing to meet the case, and the fact that isolated parties of Yeomen frequently arrive in our wards from various parts shows that we have been successful in making the principal medical officers of all stations understand that our wish is to get hold of every sick Yeoman in South Africa who is fit to travel to us, no matter how slight his ailment may be. We always make a point of keeping 30 beds vacant for Yeomen who may arrive unexpectedly or at very short notice.

Recent developments include getting into working order

the laundry and the filtering plant. Hitherto we have had to boil all the drinking water to be on the safe side. The cemetery, too, owing to the typhoid fever, is, I am sorry to say, already needed. Each funeral is carried out with military honours, including the "Last Post," but not including the firing of the salute, for that would be heard and understood by the other sick ones who are hovering between life and death. Poor fellows, their arduous and prolonged efforts on short rations at the front tell heavily against them when subject to a long and exhausting illness, and failure of power is apt to cut short a case which in ordinary civil conditions would in all probability have pulled through. We are also beginning to rig up telephones, for the distances are considerable, and all the orderlies are wanted in the huts and can be ill-spared for running messages.

Deelfontein, April 9th.

The small town which has sprung up here in the middle of the Karroo desert is attaining quite large proportions and slowly yet surely we are reaching a stage of full development. Everything is working out well. The huts are a great success and most comfortable, but of course they render it quite impossible for the hospital to be anything but a stationary one. How I wish that a few hundred of the people who so generously gave their money or their work for this hospital could come and see what great good it is doing and how delighted the patients are, officers and men alike. We brought out 40 nursing sisters; now I wish we had brought out 80 or 100. We should not have found that number one too many for one hospital when quite complete. I am very pleased that the Imperial Yeomanry Hospital has been one of the first to employ nurses on a large scale. This I think is a great advance in the medical attendance of our sick and wounded soldiers. It has been rendered possible by rapid steamship and railway travelling, good transport of supplies, the Geneva conventions which neutralise in civilised warfare all non-combatants, and further by the fact that the modern highly skilled nurse has grown up since the last large British war. I am sure that apart from their skill and help to the doctor they confer comfort and happiness on the patients, and I think that in the future it will be recognised that there will be plenty of scope for the nursing sister in war. Our two superintendents, Miss Fisher and Miss Brereton, are getting on admirably. Miss Brereton has charge of the operating theatre and of surgical instruments, dressings, splints, &c.

The most interesting time in our hospital is when No. 2 and No. 3 hospital trains run into our private railway siding and discharge their patients. The siding runs right into the hospital grounds, so that the difficulty of transferring cases from the carriages to the wards is as far as possible minimised. No. 1 hospital train and Princess Christian's train are at work in Natal. No. 2 brought us a load last week and to-day No. 3 brought us 96 cases straight from the recent actions around Bloemfontein. Many of them are very badly injured. One young officer has no less than seven wounds, four made by bullets and three by bits of shell. He will, I think, recover completely and be as good a man again as ever he was. It was, indeed, good luck that none of his wounds were serious, but it is not surprising to find his nerve considerably shaken by such an experience. Lying in the next bed to him is another officer (for we have officers' wards separated from the general wards, and as soon as the patients in them are completely convalescent we put each into a small private tent where he can be attended by the private servant who always accompanies each officer) who has been almost as lucky, for he has been shot through both thighs just below the hip and would almost certainly have lost both his legs if the wound had been inflicted by the old-fashioned soft leaden bullet. The cases that we got from Paardeberg were not so fortunate, for they, poor fellows, all had a three days' journey in ox-wagons before they reached the hospital at the Modder river. Singular cases abound in every train-load. For instance, an officer received to-day had a bullet go through his arm and after shattering the bone it escaped from the opposite side with such diminished force that it did not even pierce his sleeve but fell down into his hand. We have also two cases where bullets pierced the skin exactly over the heart, not having sufficient force left in them to do more than just bury themselves under the skin, whence they have been easily removed.

We have always made it a rule to keep 30 beds vacant on the chance of unexpected arrivals of Yeomanry, to whose wounds it is, of course, our primary duty to minister. To-day showed how fortunate it was that we made this rule, for after taking in the 96 patients from the ambulance train, thereby filling all our beds but five, we put up extra stretchers to accommodate some of the convalescent of our older cases so as not to infringe our rule. We had no sooner done so than a party of 14 wounded Yeomen arrived and we were able at once to put them to bed.

Many of those who have supported our hospital probably hardly realise its size. Eventually we shall be able to put up as many patients as may be found in Guy's Hospital on any day. If any of our subscribers want to realise how many patients that means they will get a very good idea by looking over Guy's Hospital some afternoon. The huts take a week each to put up. One is just completed and makes an excellent ward. There are more to be put up and next week I hope to send you a plan of the hospital grounds. All the equipment for the wards is excellent with the exception of the wooden furniture, such as tables, cupboards, and chairs. These articles have stood the journey very badly, consequently we have a large number of breakages and we are rather short of wooden tables, &c.

We are sending our second trainload of convalescents down to Cape Town this week for shipment home to England. We have to keep them here until we can fill up a whole train, but parties of men who are fit to return to the front are sent almost every day to De Aar, whence they are forwarded to their respective regiments.

An odd meeting took place here the other day between two brothers who had not met for months. Each thought the other was in Bloemfontein, so they were not a little surprised.

The staff of the Portland Hospital on their way to Naauwport got off the train that was conveying them and their hospital and paid us a visit.

We are just getting a laundry to work, and as it is to wash for 750 people a week it will have to be a large one. At present we cannot afford sheets for our convalescents, nor, indeed, do any of the medical staff or orderlies possess them. When, if ever, we have such luxuries it will mean putting through the laundry 2000 sheets a week, to say nothing of blankets, pillow-cases, and smaller linen.

The engine that heats the water for the laundry provides the steam by which all our articles of infected clothing and bedding are sterilised. The same engine also pumps the water used for drinking purposes through the big filter-tanks.

So many people pass through by train that we often have unexpected visits from our friends and we are generally able to give them lunch or tea.

In many ways I think that good cannot fail to result from the participation in this war of so many civilians. It will quicken the interest of many people in the management of the army and the well-being of that service, while the discussion on the Army Estimates, instead of being to most people very dull, will be a matter of great interest.

We had a most successful parade service on Easter Sunday and every member of our staff had a present of tobacco to celebrate Easter day. The orderlies all were very delighted, for they have great difficulty in obtaining tobacco. They have been working very hard since they came.

Deelfontein, April 16th.

ARMY MEDICAL REPORT FOR 1898.[1]

FIRST NOTICE.

TURNING over the pages of this Blue-book—the volume with the appendix, by the way, has really a cover of the prevailing khaki colour, but that is a trifling detail—we have come to the conclusion that it is one of more than usual interest. As it is for 1898 the South African war finds, of course, no place in it, but much of a medico-military kind had been taking place before the advent of the present war, which, it is needless to say, almost exclusively absorbs the public interest at the present time. In

[1] Army Medical Department. Report for the Year 1898, with Appendix. Vol. xl. London: Printed for Her Majesty's Stationery Office by Harrison and Sons, St. Martin's-lane, Printers to Her Majesty. 1900. Price 2s. 6d.

addition to the usual reports and statistical tables connected with the health and hygiene of our European troops at all stations at home and abroad the titles of the papers published as appendices to the report are upon subjects of a varied and promising character. To take these first we may briefly give their titles. They are as follows—the usual report on the progress of hygiene for 1899 by the Professor of Military Hygiene at the Army Medical School, Netley; reports from the surgical and medical divisions of the Royal Victoria Hospital by the Professor of Military Surgery and the Professor of Medicine respectively; a report on the Nile expedition of 1898 by the Surgeon-General who was principal medical officer of the expedition; various reports connected with the field operations in the West African Hinterland; an elaborate report on enteric fever in Pietermaritzburg with tables and diagrams; together with contributed articles on the method of preparation and control of anti-venomous serum (antivenene), on the treatment of tetanus by antitoxin, and on Pasteur's method of "vaccination" against hydrophobia, and notes on an outbreak of cerebro-spinal meningitis occurring at Omdurman and in the Soudan.

The report opens with the usual excellent summary statement of the health of the troops at home and abroad, which we cannot do better than follow closely seeing that the results of the facts and figures for 1898 are analysed, collated, and published in a succinct *précis* form.

The average strength of European troops serving at home and abroad in 1898 was 202,166 warrant officers, non-commissioned officers, and men. The total number of admissions to hospital was 198,513, and the total deaths 2208. The admissions represent a ratio of 981·9 per 1000 of strength as above; the deaths one of 10·92 per 1000, on a strength of 203,980, which includes detached men not shown in the returns received.

Amongst the troops serving in the United Kingdom the admission and mortality rates were somewhat higher than in 1897, but compare favourably with the average rates for the 10 years 1888-97. There was no special prevalence of eruptive fevers, but enteric fever caused much more sickness than in the previous year, the incidence of the disease being largely influenced by the return of troops from the Khartoum Expedition, among whom there were 90 cases and 10 deaths after their arrival home. Excluding these the prevalence of enteric fever was practically the same as in the previous year and as the average rate. Dublin gives the highest rate of prevalence at any one station. Influenza was much more prevalent than in 1897, but did not appear in an epidemic form. The decline in venereal diseases, which commenced in 1886, still continued during the year under review, but marked variation is observed in their prevalence at individual stations. During the manœuvres on Salisbury Plain there were 61 cases of heat-stroke and sunstroke among the troops engaged.

There is little calling for special notice as regards Gibraltar and Malta. There was more sickness from enteric fever at the former station, the increase being due to the return of troops from the Khartoum expedition; while at the latter station (Malta command, inclusive of Crete) the statistics were much complicated by the events connected with the Moslem outbreak at Crete in September, 1898, and by the sudden reinforcement of the garrison of that island with regiments returning from active service "up Nile," circumstances which gave rise to a large amount of the enteric fever, malarial fever, and other sickness tabulated in the returns of the Malta command. Passing over Canada, Bermuda (where the number of cases of enteric fever had been much reduced in 1898), and the West Indies, we come to the remarks on South Africa where the ratios of sickness and mortality differed but little from those for 1897 and the average rate. Enteric fever was, however, very prevalent, assuming epidemic proportions in Natal, where there was also much sickness from dysentery. In Mauritius the health of the troops was somewhat above the average. Malarial fevers caused almost one-third of the admissions, but were not so prevalent as in 1897. In Ceylon there was a considerable improvement in the general health, principally on account of the lessened prevalence of malarial fevers. In China the general health of the troops was much better than in 1897, the principal decline being in malarial fevers. Plague, which was epidemic among the civil population, caused eight admissions and one death among the troops. In the Straits Settlements there was a large increase in the amount of sickness from malarial fevers, which is attributed to the arrival of the 1st Battalion West Yorkshire Regiment from Hong-Kong. In India the chief causes of sickness were, as usual, malarial fevers and venereal diseases, which together caused 55·4 per cent. of the admissions for all causes. Malarial fevers and enteric fevers were more prevalent, but the admission rates of cholera, dysentery, and venereal diseases were less than in 1897, the decline in venereal disease being equal to more than one-fourth of the ratio for the previous year. There were again a few cases of plague in the Bombay command. The health statistics of the troops in Egypt are complicated by the fact that numerous regiments came from other stations for service in the Khartoum expedition and that many cases of enteric fever, dysentery, &c., occurred in Lower Egypt amongst men who had returned from the Soudan. There was a considerable increase in the amount of venereal disease.

THE CENTRAL LONDON RAILWAY AND THE LEVEL OF THE SUBSOIL WATER.

(FROM A CORRESPONDENT.)

IMPROBABLE though it may appear at first sight there exists a possibility that the construction of an underground railway may affect indirectly for good or for evil the health of the inhabitants in its immediate neighbourhood. This would depend upon any considerable alteration in the level of the subsoil water that might arise from the execution of the work and also upon the composition of the water, much of that in the London subsoil being associated with leaking sewers and gas mains. It would be interesting to learn from medical men practising in the vicinity of such new lines whether they have noticed any increase or otherwise of cases of illness owing their origin to conditions of humidity or to a polluted subsoil.

Though any consideration of the subject at the present moment must be speculative to some extent yet such an inquiry, taking the Central London Railway as an example, may not be devoid of interest. A brief conversation with the eminent engineer who planned the line or with any of the other able men interested in its construction would doubtless convince anyone of the utter impossibility of such an event as the one under discussion taking place. On the other hand, a walk over its course from the Bank of England to Shepherd's Bush might lead the inquirer to other conclusions. A careful observer would notice many houses which were showing signs of "settlement" together with cracked and broken pavements. More particularly is this the case in the immediate neighbourhood of the stations and at certain points at which the line has intersected the beds of several ancient streams, such as the Wallbrook by the Mansion House, the Tybourne river by Davies-street, the Tybourne brook by the Marble Arch, or the Westbourne by the head of the Serpentine. The owners of these houses would be found to hold opinions upon the subject altogether at variance with those which are held by the eminent experts already alluded to. At all events, it is common knowledge that their views in many instances have so impressed those responsible for the construction of the line that considerable sums have been paid by the railway company in compensation for damage done. This being so it may be well to inquire how these settlements have arisen and what other effects may be expected to result from the same cause. To do this it will be well, first, to consider the nature of the soil through which the line passes, and secondly, the construction of the railway so far as the means at disposal will permit.

THE NATURE OF THE SOIL.

Taking the Marble Arch as a central point, the Ordnance datum level of which is 93 feet 4 inches, the ground has a general surface-fall eastwards—viz., slightly undulating to the Tottenham Court-road; it falls there to 87 feet 1 inch. At Holborn-circus it is 55 feet 7 inches, and in Holborn valley 35 feet, and, rising again, at Newgate-street it is 65 feet 3 inches, whence it falls at the Bank of England to 39 feet. From the Marble Arch westwards it falls to 65 feet 8 inches at the head of the Serpentine (Westbourne station), and rising again at Notting Hill Gate station to 96 feet 8 inches, it afterwards falls at Shepherd's Bush to 27 feet 3 inches.

Below the London Clay, in proper sequence, should be the "Oldhaven Beds," but deep borings in this neighbourhood have hitherto failed to discover their presence. Below the London Clay, therefore, in the district under consideration is found a stratum frequently composed of greatly varying material—viz., the Woolwich and Reading Beds. These

consist of plastic clay, loam, sand, and pebble-beds and are for the most part impervious to water, though not always entirely so. This fact of possible permeability should not be lost sight of, as in the event of the London Clay being pierced by the tunnel immediately above a porous strata any water gaining access to such a point would escape through it and possibly into the Thanet Sands that rest upon the chalk below. The London Clay, which in the City is about 110 feet thick, is in Oxford-street, in the neighbourhood of the Tottenham Court-road station, not more than 64 feet in depth. Towards the Marble Arch it thickens out considerably, and in the neighbourhood of Notting Hill it approaches a depth of 200 feet. The upper surface of this clay is a gentle undulation at right angles to the river, towards which, of course, it slopes.

The Bagshot Beds, which come next in order, are so sparingly present in this district that they need not be here discussed.

The River Drift, composed chiefly of sand and gravel, but interspersed with beds of loam, clay, or brick-earth, rests here upon the London Clay. As might be expected this varies much in thickness, attaining its maximum of from 25 feet to 30 feet in the vicinity of the old Kensington gravel-pits at Notting Hill, as also at the Marble Arch. It is lost for a short distance between the west slope of Notting Hill and Shepherd's Bush, at which latter place the sand and gravel reappear in conjunction with the brick-earth. Eastwards from the Marble Arch the gravel thins down considerably to some two feet or less, whilst in the older City east of Holborn it has almost disappeared, being replaced by the made ground. The made ground at the commencement of the line in the City in places exists to a depth of 20 feet or 30 feet or even more. It represents the accumulated rubbish from the destruction of old buildings for generations, dating from the time of the Roman occupation. This made ground, after passing the Tottenham Court-road station, where it has a depth of some 10 feet, thins away rapidly westward.

In addition to the character of the strata the original physical features of the district must be borne in mind. The marshy nature of the land on either side of the river is notorious. The tunnel passes under Oxford-street and the Bayswater-road, and these roads stand upon the site of the old Roman road—the Via Trinovantica of Stukeley. This old military road, which entered the City through Old-street (Ealdstreet), was raised above the surrounding marsh, and it crossed, going west, first the Wallbrook and next the Fleet river, and then for some distance it ran beside the Oldbourne. The Tybourne river was next crossed. Upon the site of this old stream the west side of Stratford-place is built. After crossing the old Watling-street (now the Edgware-road) the Tybourne brook was crossed which, rising a short distance at the back of Connaught-place, ran through Hyde Park and joined the Serpentine just above Knightsbridge. It was beside this stream, at the back of Connaught-place, that "Tyburn tree" for generations yielded its awful crop to enrich the surrounding ground. Descending the slope westward the road crossed the Westbourne river, which higher up received the waters of the Kilbourne brook. The Westbourne, long since covered over excepting where it passes through the centre of the Serpentine, which takes its name from the sinuosity of the former stream, occasionally overflows at this point into its old bed at the head of the Serpentine. The Serpentine, however, draws its chief supply from a well sunk in the chalk. All these streams formerly drained the marsh lands from the foot of the northern heights into the Thames. There is abundant evidence as to the saturated character of much of the subsoil; for instance, Hertford House, Manchester-square, is or was built upon wooden piles, as was also the Bank of England, which last has been underpinned since the advent of the railway, but this may have been a coincidence. In the middle of the eighteenth century woodcocks were shot in Conduit Meads, now Conduit-street, while Bayswater, as its name implies, was noted for its conduits.[1]

It will be seen from the foregoing statement that the ground through which the railway passes consists of four distinct layers: (1) made ground, (2) sand and gravel with clay, (3) the London Clay, and (4) the Woolwich Beds. The sand, gravel, and clay are more or less saturated with water retained in hollows formed by the London Clay at greatly differing levels. At the end of this article is given a short outline of the leading features of the stratigraphical geology of the London Basin. The facts mentioned therein are gleaned from Professor Geikie's "Text-book of Geology," and from the excellent "Guide to the Geology of London," by William Whitaker, B.A., F.R.S.

[1] Baynard Castle, that occupied the site of the Carron Company's wharf in Upper Thames-street, was supplied by means of a conduit from a field called Baynard's watering, altered to Bayswater.

THE CONSTRUCTION OF THE RAILWAY.

For five miles through this partially water-logged district runs the railway. Any failure in construction would convert this externally into a double drain having some 13 branches, represented by the vertical shafts and cross tunnels to the several stations.

The tunnels fall east and west from the Marble Arch; they do not appear to be laid with an even fall, but have a drop of some 20 feet midway between each station, and, in fact, resemble a "switchback." The superficial area of the tunnels in contact with the earth requiring to be rendered water-tight is enormous. Each of the main tunnels has a circumference of over 36 feet, and the station tunnels are each probably double this size and 350 feet long, while the access shafts that pass down through the various strata must be from 100 feet to 120 feet in circumference. No doubt in order to minimise the difficulty of passing through any water-bearing strata and to avoid the sewers the tunnels have been kept at a considerable depth and as much as possible within the area of the London Clay. The thickness of the clay would seem generally to have been sufficient to have obviated any descent into the Lower London Tertiaries; at all events, there is only one publicly known instance to the contrary—viz., at a point between the Tottenham Court-road and Oxford-circus. Here, at a depth of 80 feet, the clay was pierced, a specimen of calcareous sandstone with fossils having been removed and presented to the Geological Museum in London.

Details of construction.—The tunnels are made by means of a steel cylinder or boring tool which is some eight feet or ten feet long, of the exact diameter of the tunnel, and furnished with a slightly wedge-shaped cutter bolted on one end of the tool. This cylinder, or "shield" as it is termed, is pushed onwards with a slight rotatory motion by hydraulic pressure. The core of earth is next dug out and removed from the cylinder. The excavation thus made is then lined with iron segments bolted together, forming theoretically a circular tunnel of the exact size of the cavity made by the shield. Through small holes in this iron lining lime or cement grouting is forced in by compressed air or steam, in order to fill any existing cavity between the exterior of the tunnel and the soil.

The air-lock.—When by previous borings it is known that the excavation is to pass through either loose ground or a water-bearing strata an iron division is fixed across a portion of the completed tunnel a short distance behind the shield, thus forming an air-tight chamber. This division is fitted with a door through which the workmen can pass in and out, also with a small plate-glass window, through which the interior of the chamber can be seen. The air-lock thus formed is connected by tubes passing through the division to an air-pump which forces in the air at a pressure of several atmospheres, sufficient to uphold the water and loose soil while the work is proceeding.

The vertical shafts.—These present great difficulties in preventing the subsoil water from gaining access to the exterior of the tunnel below, inasmuch as they pass down through varying strata, the River Drift composed, as has been seen, of layers of sand, loam, clay, or gravel—the thin layers of impervious clay sometimes holding up and dividing local beds of water from the underlying porous beds of sand and gravel. It would seem that the operation of sinking these shafts is accomplished in the same way as that in which lined wells are sunk. A shallow excavation, perhaps three feet deep, and of the size of the shaft, say 40 feet over, is first sunk. The iron segments forming the first ring are then placed in position and bolted together and afterwards the space between them and the soil is filled in. A second sinking is then made at the bottom of the first and is lined, but with each succeeding section the difficulty of making good the sides of the loose water-soaked soil would seem to increase. This course is followed until the iron cylinders are several feet below the surface of the clay, or by underpinning. In this case brickwork would take the place of the iron cylinders below the clay level, and the difficulty of making good the outside of the shaft would certainly be greater. The means adopted for preventing the water from

rising in the bottom of the shaft when passing down through a saturated soil are not evident, as the railway company were prohibited from employing pumping operations by their Act of Parliament.

Summary.—The subsoil water forms a series of pools resting on the top of the clay at greatly varying levels, each having its individual outlet but each cut off from its neighbour by intervening beds of clay. Not infrequently the height of this subsoil water is regulated by the levels of the main sewers. At a considerably lower level than that of the sewers now run the two enormous cylinders forming the railway, communication with the different levels having been completed by the several still larger vertical shafts that pass down to the tunnel through the pools or beds of water above referred to. It must be evident, therefore, that if any accidental connexion is made between detached groups of water-bearing strata at present divided by beds of impermeable clay, the water in the higher level will be lowered and that in the lower will be raised. Any defect in the sewers that permitted the entrance of the subsoil water would, under certain conditions, now permit the escape of water from the sewers to the lower drainage level. During the progress of the works water-bearing strata may have been connected together, for a time at least, by the many bore-holes sunk to ascertain the nature of the soil. The tunnel has in one known instance, and possibly in others, pierced the bottom of the London Clay. In such an event should the underlying beds at any such points be of a porous nature a ready escape for water would exist. The great difficulty at all times of excluding water from a pit or basement when the same is sunk in a water-bearing stratum is well known, even when the depth is but slight. In the case of the railway the difficulty is tenfold and such work has to be conducted at considerable disadvantage, while the opportunity for ascertaining that the water has been ultimately excluded from contact with the tunnel externally would not appear to exist. That a space is present round the cylinders is admitted by the endeavours made to fill them up with the cement grouting. In theory this may be accomplished, but in practice that unknown quantity due to all human agency must be reckoned with. The unexpected, the sudden, perhaps partially local, variation in the nature of the soil, even the temporary failure of the machinery or the carelessness of those employed, are all factors leading to failure in this respect and of which failure there exist many proofs. It would seem to be possible that the enormous pressure put upon the clay by the insertion of the cylinders might, by expelling the moisture, cause the clay afterwards to shrink for a time.

CONCLUSIONS.

The damage to the houses caused by subsidence at various points along the line of railway is without doubt in a large measure due to the drainage of the water from the foundations. In some instances when settlements have occurred in adjacent property they have taken place immediately upon the completion of the work at the nearest section. At others very many months have elapsed before the damage to the property became pronounced. This difference may be accounted for in the following manner. Any failure in consolidating the soil round the tunnels or shafts must sooner or later cause a subsidence owing to the great pressure from the surrounding buildings. The first settlement would be attributable directly to this cause. If, however, such subsidence was delayed water would unquestionably gain access to the cavity and in time a connexion would be formed along the course of the tunnel between water-bearing strata at different levels. Months, or even years, might be required to complete this, but as time passed the channels would increase in size by the action of the water. The first effect in this case would be to lower the level of the water at the higher point, when settlements would ensue from shrinkage. Afterwards when the channels had increased in size a further general settlement might probably ensue along the track of the flowing water. To this cause may probably be attributed the damage to the house property in Birkenhead in the case of the well-known subsidence of the ground following upon the making of the Mersey tunnel. The vibrations caused by the passage of the trains would be likely to accelerate any such secondary settlements. It would be quite possible at this juncture for the channels to become blocked by the falling earth, when the water for a time might regain its former level until a fresh outlet was found, but such fluctuations of level would be extremely detrimental alike to health and to property. Enough has been said to show that the alteration in the levels of the subsoil water in the neighbourhood of any such underground railway is not only possible, but, indeed, judging from the effect upon house property, extremely probable.

In discussing this subject in the interest of the public health there is no wish to decry the good work which underground railways are likely to accomplish in the future by relieving the congestion of our main thoroughfares. It is rather hoped that by discussion the fears expressed may be fully considered from the point of view here suggested before the system of underground tunnelling is greatly extended. The work itself is a monument to human ingenuity, the tunnels themselves forming by no means the most wonderful part of the undertaking.

GEOLOGICAL NOTES ON THE LONDON BASIN.

The Cretaceous system.—For the present purpose the older beds, below the great mass of chalk that forms the basement of the London Basin, may be left out of consideration. The chalk under London has been denuded and forms a hollow. It varies in thickness from 700 feet to less than half that depth and acts as a huge reservoir from which quantities of water are drawn by many of the water companies and other large consumers. The water-level, which at one time rose to a considerable height above the chalk, has been much reduced and now stands at some 120 feet below the Ordnance datum.

The Eocene Tertiaries.—These follow next in order and, as their name implies, consist of three distinct groups, the first and last of which are again subdivided. They are: the Lower London Tertiaries, the London Clay, and the Bagshot Sands, which last consist of a varying group of pebbles, sand, and loam. The lower tertiary group is thus divided: the Thanet Sands which when present lie next upon the chalk, the Woolwich and Reading Beds, and the Oldhaven and Blackheath Beds. Some of these beds yielded at one time a good supply of water, but they have long since been drained.

The Thanet Sands, like the chalk, are considered to be a marine deposit and they vary greatly in thickness from 50 feet or they may be altogether absent. This stratum is frequently clayey and mixed with unworn flints, the carbonated water having dissolved the chalk into hollows and pipes. The sand, which is free from pebbles, thins out to the west and north of London.

The Woolwich and Reading Beds are always constant between the chalk and the London Clay, excepting in one or two instances where the Oldhaven Beds have carved their way through them. They vary greatly in composition, as they do also in thickness, which, however, at their greatest depth never exceeds 90 feet. At their base they are invariably composed of a clayey green sand with pebbles when resting on the Thanet Sand, but when the Thanet Sand is absent and they rest upon the chalk the pebbles are replaced by unworn flints. These flints occur from the chalk having been dissolved, as just described in the case of the Thanet Sands. From the fossils present it is judged that these beds were laid down near the mouths of rivers and streams.

The Oldhaven and Blackheath Beds are of variable depth, their greatest thickness being 50 feet. In structure they consist of well-rounded pebbles almost entirely derived from flints eroded from the chalk, and they indicate the great extent of the denudation to which the chalk has been subjected and the violence of the action by which all angularities have been removed from the flints. At times these beds are found to be mixed with clay, sand, and fossils, forming a conglomerate. This deposit has also been carried into, and laid down in, a shallow sea by streams of varying current and power. Following upon the deposition of the foregoing beds a gradual depression took place in the elevation of the south-east portion of the country, when during unknown ages and beneath a deep and tranquil sea the London Clay was laid down to a depth of some 450 feet. Owing to the silting up of the sea-bed, aided by some terrestrial disturbances, the land again slowly rose and gradually the stiff clay was covered, first with a sandy clay, merging into a clayey sand, and finally into the sand composing the so-called Bagshot Beds, the last of the Eocene or Cainozoic formations. All these deposits have yielded abundantly a great variety of organic remains, not only of marine origin but also remains

both animal and vegetable carried down from the land by the great rivers. It was, indeed, the action of these rivers that did so much to fill, with the Tertiary deposits, the two great basins of London and Hampshire hollowed in the denuded chalk. The fossil remains indicate a moist warm climate almost sub-tropical in character.

The Oligocene system, the Miocene system, and the Pliocene system.—A great gap now intervenes in the geological record of the London Basin, and it would be difficult, if not impossible, to give briefly and in proper sequence the events that produced the formations immediately following on the Tertiary deposits. Some attempt, however, may be made to give an outline of the Pliocene system. The great Ice Age converted northern Europe into one vast sheet of ice, hundreds, even thousands, of feet in thickness, the remains of which are still present in the Alps and the Pyrenees. The glaciers partially denuded and cut down the preceding formations, leaving upon their newly exposed surfaces materials derived from other, and often distant, sources, together with the moraine stuff, that mixed mass of clay, pieces of rock, and stones, called "boulder clay," pushed onward by the glaciers in their course. Not once only, but many times, was the land thus enveloped in this icy covering, while during the long but warm intervals that ensued the land in places again subsided beneath the water. It was then that vast icebergs, detached from colder regions, passed over and grounded upon the more elevated points of the land beneath the shallow seas thus formed. Many of the more yielding rocks were thus crushed or crumpled, while the melting icebergs deposited their loads of detritus upon the freshly exposed surfaces.

Post-glacial beds.—These as related to the London Basin may be said to consist of valley gravel, brick-earth, sand, loam, and clay. At the latter part of the preceding age the south-east of Britain was connected with northern Europe. The Thames was then a broad and rushing river, thought by some to have been a tributary of the Rhine. The volume of its water was swelled by melting glaciers or torrential rains, and in its course it carried down and ground or rounded the broken rocks, the flints, and the clay or the chalk torn from the various strata through which it cut its way. The several terraces of gravel, one above another, that line the valley show that the river itself underwent many changes, and as its volume decreased a deeper and narrower channel was cut in the centre of its former bed. The floods deposited upon the higher terraces the alluvium, the sand, and the clay that now cover them. In the London Basin the gravel spreads for miles on either side of the present stream, recording by the several deposits the varying strength and volume of the river. It is in these beds of river gravel, sand, brick-earth, &c., that the first traces of human existence are to be found, as evidenced by the presence of the flint implements and weapons with which men first fished, hunted, or fought. With them are found the bones of animals, some now extinct, though others are still represented. These, with man, spread to Britain from the north of Europe.

THE INTERNATIONAL CONGRESS AT NAPLES AGAINST TUBERCULOSIS.

ON April 25th this Congress was inaugurated by the King and Queen of Italy in the historic Opera House of San Carlo. The President, Professor BACCELLI, welcomed the delegates who had been sent from every European country (except England), the Congressists who numbered some 1200, and the members of the "League's" adherents in Neapolitan society. He alluded to the King's efforts during the cholera in 1884 and to his present visit to wage war against the "phylloxera of human life." He explained the objects of the meeting and briefly reviewed the question of tuberculosis from Morgagni to Koch. The recent legislation and the prizes offered for the best-planned sanatorium were mentioned. He insisted that the mortality from tuberculosis in Italy was less and more rapidly decreasing than in any other country in Europe, in spite of the number of cases attracted there by the climate, but trusted that the original example set in England would be eagerly followed by Italy in the providing of proper institutions for consumptives. The arrangements for the following days were on the lines of the British Medical Association's meetings. From the mass of communications which covered all the old ground are taken the more original items.

Professor LANNELONGUE explained his attempt to deduce results as to climate. He inoculated 150 guinea-pigs in the pleura with similar doses of tuberculous material. The 150 were divided into three lots of equal weights and put to live under different climatic conditions, one lot being retained in the laboratory at Paris, the second lot being sent to Valmont in the country, and the third lot to the seaside at Grandes Dalles. The conditions other than climatic were rendered as similar as possible, the experiment lasting 11 months. The mortality curve of the country lot was the highest from the start, the other two lots keeping level for a long time. Towards December the seaside curve rose and the laboratory curve had the best of it. A second experiment was marred by an accident to one of the lots, but here again the laboratory lot suffered least, and Professor Lannelongue concluded that the equable temperature and the repose of the laboratory were the reasons. The greater thermometric variations of the country and the seaside were followed by rises in the mortality curves. An experiment on these lines if carried out with men instead of guinea-pigs might give definite information regarding the sites of sanatoria.

Professor MENELLA pressed for legislation against the marriage of phthisical persons, since investigations proved the transmission of tuberculous toxin, and even of bacilli, by the placenta and semen.

Dr. SANARELLI read a most suggestive paper on the Dangers of Infection in Railway Carriages, &c. He especially pointed to the wagons-lits and asked that there should be not merely a general disinfection of such vehicles but alterations in the material and arrangement of the upholstery so as to allow of daily cleansing. He asked for special carriages for consumptives. The model railway carriages now on view at Rome were mentioned.

Dr. POSNER gave the result of 1300 necropsies in Virchow's clinics, showing that of the tuberculous cases 30 per cent. had tuberculous disease of the genito-urinary organs.

In the therapeutic section there was little new, iodoform being the favourite remedy, administered in every possible way. Professor Cervello had been expected to demonstrate his method of inhaling formic aldehyde. A proposal to abolish vaccination because of the risks of tuberculous infection received no support.

Dr. GERMANO gave an interesting account of the facility with which fish, especially the carp tribe, could be rendered tuberculous by feeding them on the sputum of consumptives.

Professor IRANZO had good reason to point out that the objects of the Congress would be more surely attained by the education of the public than by the passing of resolutions urging the Government to legislate on an infinity of professional whims.

A section was specially devoted to the meeting of the Laryngological Society of Italy, numbering about 80 members. The convenience of visitors was consulted by the Pro Napoli Society—a permanent institution for giving gratis and correct information on every possible matter of interest to strangers.

Professor MARAGLIANO received a tribute from his friends in the profession who presented him with an address and gold medal to mark his connexion with the anti-tuberculosis movement.

During the week the municipality of Naples gave an at-home to congressists and the mayoralty provided a special evening at the opera. Many banquets took place. The arrangements for a trip in the bay to Capri on an ironclad and other steamers were as satisfactory as was the great day at the excavations at Pompeii, when over 1000 sat down to lunch in marquees erected on the site of the gladiatorial buildings.

Summer weather favoured the Congress and has advanced the buildings of the Exposition d'Hygiène.

A volume of transactions of the Congress will be published shortly and may be obtained from the untiring honorary secretary, Professor A. Rubino, Naples.

ST. JOHN AMBULANCE ASSOCIATION.—Mr Charles William Seccombe, L.R.C.P. Lond., M.R.C.S. Eng., of St. Austell, Cornwall, has been made an honorary life member of the St. John Ambulance Association in recognition of his services as instructor and lecturer in connexion with the ambulance department of the Cornwall County Council Technical Instruction Committee.

CONFERENCE ON MEDICAL ORGANISATION AT MANCHESTER.

(*Continued from p. 1298.*)

PUBLIC VACCINATORS.

AT the Conference in the afternoon session on May 2nd Dr. Ratcliff-Gaylard's motion (printed in THE LANCET, May 5th, p. 1306)—

That it is desirable that those who have the carrying out of the provisions of the Vaccination Act should perform their duties in such a way as not to trench upon the interests of general practitioners, and that instructions to this effect be issued to public vaccinators—

led to some debate. Dr. Ratcliff-Gaylard said that public vaccinators gave their patients to understand that they used a superior kind of lymph. That had occurred in his practice more than once.

Mr. WOLSTENHOLME, in seconding the motion, said that he knew of two public vaccinators who had used blandishments and almost compulsion to get the opportunity of vaccinating children at public expense. They said that their lymph was Government lymph, that the vaccination would cost the patient nothing, and on one occasion that general practitioners had ceased to vaccinate.

Dr. MAJOR GREENWOOD said that a serious charge had been made against a respectable body of men few of whom could be so mean and dishonest. He saw no necessity for thus fouling their own nest.

Dr. S. WOODCOCK said that it was almost impossible under the terms of the Act for anything to be done as Dr. Ratcliff-Gaylard suggested. Why did not medical men look after the children and vaccinate them before they were four months old? The public vaccinator was compelled to call and vaccinate such children as the parents were agreeable to submit to him. 50 per cent. of the children in Manchester were not vaccinated properly. In a large union that he was acquainted with he had never heard of a complaint of any undue pressure being put on anybody by a public vaccinator. For them in that Conference to pass such a resolution as was proposed would be to assume that it was a common practice for public vaccinators to abuse their position under the Act under which they were obliged to discharge their disagreeable duties. He considered that it would not only be unjust, but it would be ungenerous, for the Conference to pass such a motion.

Dr. F. REES said that the resolution was inadequate because it did not sufficiently call attention to the grievances of the general practitioner with regard to the Vaccination Act.

Dr. BRASSEY BRIERLEY said that it was a reckless charge and that no evidence had been brought forward. The accusation ought to have been supported by the most direct and complete proof.

The motion on being put to the vote was lost by 19 votes to 17.

THE MIDWIVES BILL.

On the third day of the Conference, Thursday, May 3rd, Mr. G. A. WRIGHT (Manchester) took the chair.

Dr. GLOVER read a paper on "Some Debated Points in Medical Politics" which will be found reported *verbatim* in THE LANCET of May 5th, 1900, p. 1306, at which point our report of the proceedings stopped.

Mr. G. H. BROADBENT (the Incorporated Medical Practitioners' Association) said that the title of Dr. Glover's paper was a misnomer. It was useless to talk of a Bill for the control of midwives and for remedying the difficulties which existed, because the Bill was simply for the furtherance and promotion of midwives, and as to their control and supervision it was worth nothing at all and was altogether mythical. The object of the present legislation was to make the midwife an independent medical practitioner. He considered that Dr Glover ought to have given notice that his address was to be for the promotion of the Midwives Bill.

Mr. R. H. WOLSTENHOLME (Salford) said that though the midwives existed as a fact they were not recognised as a legal class. The profession would not oppose the creation of midwifery nurses, but the Bill formed a new inferior class of medical practitioners from ignorant women who were one day to be at the washtub and the next were to be acting as legalised medical practitioners.

Dr. MAJOR GREENWOOD (the Poor-law Medical Officers' Association) said that the great objection to the Bill was that these women would be made legal practitioners of midwifery. The Local Government Board did not recognise midwives acting independently of medical men. If the Bill were passed the Local Government Board would be compelled to recognise the midwife to be a practitioner in midwifery. If the Bill were passed would the present happy agreement continue by which medical men saw cases with midwives? It might create a sort of conflict between the medical profession and this new class of practitioner which would result in a deadlock and render the Bill unworkable.

Dr. A. G. C. IRVINE (Birmingham and District General Medical Practitioners' Union) said that many medical men held a view quite different to that expressed by many at that conference. Legislation on the subject of midwives was a certainty and could not be avoided. They were blind and foolish who tried to avert proper legislation, but the medical profession could not approve of the present Bill before Parliament.

Dr. F. REES (Wigan and District Medical Guild) cordially agreed with every word that had fallen from Dr. Glover. It had been stated at that conference by some of the gentlemen present that whilst recognising the serious evils which existed they were not willing to have any legislation on the matter of registration of midwives. How was the Government to get rid of the evils which these gentlemen acknowledge to exist except by some sort of legislation? Some gentlemen said that they would not object to the Bill before Parliament if the midwives were called midwifery nurses, but the Government were simply defining a state of things that was really in existence. The midwives in practice now were women who were engaged to attend confinements and if anything went wrong a medical man was called in to help. There were members of that conference who would be perfectly willing to see all women removed from attendance on midwifery cases (cries of "Certainly") and their places taken by medical men who would strive to make a living, if that were possible, from the low fees paid to midwives. He had a higher opinion of the conduct of the medical profession than to desire such a state of things.

Dr. GLOVER said that Mr. Broadbent considered the title of his (Dr. Glover's) paper to be a misnomer and expressed the opinion that the proposed supervision of the midwives was nothing at all—in fact, merely mythical. That was, to say the least, scarcely complimentary to the Midwives Board. It would be to the ultimate advantage of the profession if gentlemen would treat governing bodies with more respect, and he must deny that Mr. Broadbent's remark was either correct or proper, because the supervision of the midwives would be very real. If the midwife disobeyed the orders and regulations of the Midwives Board she would be taken off the list and prevented from following her work, which would be a greater punishment than merely fining her 10*s*. Mr. Broadbent objected to the definition of midwife and he (the speaker) personally could not understand the definition; he did not know any member of the General Medical Council who was satisfied with it; it was therefore to be the subject of discussion with the Government.

Mr. BROADBENT said it was not a Government measure, and was proceeding to refer to a letter which he had received from the Leader of the House of Commons when the chairman directed Dr. Glover to proceed.

Dr. GLOVER, continuing, said that in regard to its being a Government measure it must be remembered that the Lord President of the Council was in communication with the Government on the subject. It had practically become a Government measure either actually or potentially. It certainly was not correct to say that it was not a Government measure. The Government had said to the promoters of the Bill, "You satisfy the General Medical Council and then we will consider the matter." The Government had assumed that on the main points the General Medical Council had been satisfied, and on any points in which the Council should fail to be satisfied the support of the Government would be withdrawn. Mr. Broadbent with a sweeping style which did not commend itself to accuracy, said that all the safeguards in the Bill were mythical, but he (Dr. Glover) must deny that there was any justification for such a remark. The difference of opinion between them and the Government was that they wanted inserted in the Bill literally that when a midwife got into a difficulty she was to send for a medical man, and to that the Government replied, "You have the whole matter in your own hands already, you are to make the regulations." (Cries of "No, no.") Replying to this interruption Dr. Glover said that they must allow him to know about the matter, for he had spent half

an hour in consultation with the Solicitor-General and was speaking from actual personal experience. The Government said, when told what they wanted in the Bill, that the medical profession were empowered by the Bill to make all the rules in regard to the matter and that it was entirely in the hands of the General Medical Council; therefore Mr. Broadbent and his friends might go on denying the fact till the end of time, but it would not alter matters. Mr. Wolstenholme had said that the midwives did not exist as a legal class, but was there any gentleman present there who would take a midwife into a court of law and say that she was using an illegal title? Was there any gentleman there who would deny that a midwife had been able to recover her fee in a court of law?

Mr. R. B. ANDERSON (the Corporate and Medical Reform Association, Limited) said that he was surprised at the question: a midwife could not recover her fee in a court of law.

Dr. BRASSEY BRIERLEY (Manchester Medico-Ethical Association) said that in that district a midwife had thus recovered her fees.

Dr. GLOVER, continuing, said that he challenged Mr. Anderson to prove the correctness of his contradiction. He (the speaker) had taken legal advice on the matter and had been informed that the services of a midwife had been recognised in a divisional court as quasi-medical or surgical. [Dr. GLOVER was here subjected to considerable interruption which did not subside till Mr. R. B. ANDERSON had replied in the affirmative to the question, Did he consider that a midwife was liable to prosecution under Section XL. of the Medical Acts? Dr. GLOVER having been called upon by the audience to "Go on" and "Never mind Mr. Anderson," continued his reply.] What was the use, he said, of the General Medical Council trying to raise the profession if Parliament was to be told that medical men in large numbers were to be found willing to attend midwifery cases at 5*s.* 6*d.*? (A voice: "It was not true.") He agreed with the gentleman, though perhaps the point had been made in a somewhat monosyllabic manner, and he put it to the meeting whether he was not supporting the dignity of the profession in that matter. It was not until the Bill came forward that it became a crime to recognise a midwife. He himself thought that the best term to use was "midwifery nurses," but it was impracticable to urge that; it was not even within the power of Parliament to obliterate the word "midwife" from their language, and that was a common-sense view of the matter. His friend and neighbour (Dr. Major Greenwood) objected to the midwife being raised to the position of a medical practitioner, but the Bill said specifically that she was not to be placed in that position. In answer to Dr. GREENWOOD Dr. GLOVER said that he considered that the Obstetrical Society in labeling their documents as diplomas did very wrong and he voted for that to be stopped. Last year he voted that the General Medical Council should withdraw their recognition of the present document issued by the Obstetrical Society, but he would not be a party to accusing men like Sir John Williams, Dr. C. J. Cullingworth, and Dr. F. H. Champneys of being guilty of infamous conduct in a professional respect. Such a charge would only bring the General Medical Council into ridicule.

Mr. BROADBENT asked if poorer men were wanted.

The CHAIRMAN interposed with the remark that Mr. Broadbent should not have said such a thing and considered that it was an improper remark.

Dr. GLOVER, continuing, said that Dr. Major Greenwood feared that if Parliament passed the Bill the friendly assistance granted to the midwife by medical men would be withheld, but he, Dr. Glover, did not believe that. Perhaps one or two might consider it their duty to act in that manner; he did not think that that would be the general action of the medical profession.

MEDICAL ORGANISATION.

Dr. E. JEPSON (Durham) read a paper on Medical Organisation in which he advocated the organisation of the medical profession into a number of unions or guilds throughout the country from which provincial councils could be chosen on the same lines as the National Union of Teachers. These councils would then work through the Council of the British Medical Association. He suggested that members should attend in force the Ipswich meeting of the British Medical Association and demand a handsome annual grant for three years towards the complete organisation of the profession. Dr. Jepson concluded by pointing out that a small annual registration fee from medical men would produce sufficient to secure that two representatives should be sent to the House of Commons to support the interests of the medical profession.

Dr. S. CRAWSHAW (Ashton-under-Lyne), honorary secretary to the conference, moved the following:—

That in the opinion of this conference no scheme of medical organisation can be considered satisfactory unless it provides the following machinery:—

1. Local or district associations formed wholly or partly for the discussion of medico-ethical or medico-political topics, to which all practitioners in the locality shall have the right to belong, such associations to be formed for this purpose where not already existing.
2. An annual conference of delegates from these associations, at which conference only medico-ethical and medico-political topics shall be discussed.
3. A central executive committee which shall be nominated and elected by the local associations, every member to retire annually, but to be eligible for re-election.

Dr. T. W. HIME (Bradford and West Riding Medical Union) suggested that instead of "all practitioners" the words should read, "all registered medical practitioners of good repute," otherwise the wording was so general that the untidy, dirty, and drunken women of whom they had been speaking would have the right to belong.

Mr. J. S. WHITAKER (the Incorporated Medical Practitioners' Association of Great Yarmouth) said that every registered practitioner prepared to conform to the rules of an association should have the right to belong, otherwise they drifted into local jealousies and dislikes.

Dr. S. WALKER (North of England Branch of the British Medical Association) said that the object should be to bring the black sheep into the fold. If these small societies were formed in every town and district so that the local intelligence of the practitioners was best able to be brought into force they would have a better organisation of the profession. He considered that the real work would be done by the little local associations.

Mr. R. B. ANDERSON suggested an addition to the resolutions of a paragraph dealing with a well-considered platform of common objects and methods.

Mr. WHITAKER opposed this addition. The mass of the practitioners must say what they want and let the central organisation carry out their dictates.

Dr. A. B. RITCHIE (Lancashire and Cheshire Branch of the British Medical Association) said that the organisation should be grafted on to the British Medical Association.

Dr. MAJOR GREENWOOD said that smallness of size in societies in regard to ethical questions was not satisfactory, because the ethical conduct of members was not a subject for decision by small associations.

After further discussion Dr. CRAWSHAW'S motion was carried in the following form:—

That in the opinion of this conference no scheme of medical organisation can be considered satisfactory unless it provides the following machinery:—

1. Local or district associations formed wholly or partly for the discussion of medico-ethical or medico-political topics, to which all registered medical practitioners in the locality who agree to conform to the rules of such associations shall have the right to belong, such associations to be formed for this purpose where not already existing.
2. An annual conference of delegates from these associations, at which conference only medico-ethical and medico-political topics shall be discussed and voted on.
3. A central executive committee which shall be nominated and elected by the local associations for a period of three years, one-third of such committee to retire annually and be ineligible for re-election for one year.

Dr. ALFRED COX (Gateshead) brought forward the following motion:—

That this conference is of opinion (1) that the pressing need in medical organisation is concentration; (2) that the multiplication of associations other than those purely local is to be deprecated; (3) that the size, position, and wealth of the British Medical Association make it the most suitable national medical organisation; and (4) that the efforts of all medico-ethical and similar associations and of the conference should be directed to the conversion of the British Medical Association into an energetic body really representative of the profession.

He said that the British Medical Association was a played-out body as far as medico-ethical matters were concerned. They felt strongly that in the past their energies had been dissipated by forming many associations all with practically similar objects, and it seemed to him foolish not to use the accumulated funds of the British Medical Association. The British Medical Association had lasted 60 odd years and it had attained a position of importance which enabled it to go to Parliament and the Government with more or less responsibility, chiefly less. Most

practitioners making a comfortable living did not care a straw about these things, but every man should join his branch of the British Medical Association; the constitution of that body should be altered and the funds secured by "collaring" the British Medical Association.

Dr. BRASSEY BRIERLEY said that on the council of the British Medical Association he had received support not from the general practitioners there but from the consultants. The branches should pay the men they sent up to the council and could then demand that they did the work they were deputed to perform. He deprecated the "high falutin'" fashion of talking adopted by Dr. Cox.

Dr. HIME said that he could not ask his society to accept the view that their whole duty was the conversion of the British Medical Association.

Dr. R. E. HOWELL (Middlesbrough and District Medical Society) said that the plan would necessitate every member of the medical profession becoming a member of the British Medical Association, which was an excellent idea, but there might be men who objected to that.

Dr. COX's motion was put to the vote and declared carried.

The final session of the conference was held on the afternoon of May 3rd, when Mr. GEORGE JACKSON (Plymouth) occupied the chair.

Mr. T. GARRETT HORDER (Cardiff) read a paper on the British Medical Association from a General Practitioner's Point of View, in which he urged that the association in question did not possess that power which it ought to and that it had failed to support the interests of the profession. Its financial condition was in a most satisfactory position, but it failed to support and defend the rights of the general practitioner. Mr. Horder then proceeded to discuss in detail the constitution of the council of the British Medical Association. In his opinion no reform would ever be brought about in the council unless the branches themselves elected men who were in favour of such reforms. He considered that the term of office of councillors should be limited. He advocated the redistribution of branches, limitation of office to a certain period of all officials, and an alteration in the mode of voting. Before Mr. Horder resumed his seat after having read his paper he said that they had felt disappointed, not to say hurt, that some further definite action had not been proposed by Dr. Glover, the chairman of the Medical Aid Association Committee for the General Medical Council, after having passed the resolution with regard to medical aid associations disapproving of those bodies touting for patients. Ten months had passed since that resolution had been declared to be otherwise than a pious opinion, but they were at the present time just in the same position as they were then.

Dr. MAJOR GREENWOOD discussed the question of the size of the branches of the British Medical Association and declared that general practitioners were not so systematically kept down as described, and there was no attempt made to put hospital men with appointments before practitioners, though undoubtedly practitioners had a tendency to bow the knee before consultants.

Dr. COX said that the voting in the branches should be through the post and it was ridiculous to propose important resolutions at annual meetings attended as they were at the present time and they must have proxy voting. Men must be sent to vote in a certain way and must give an account of their stewardship.

Mr. WHITAKER said that as to the size of the branches each part of the country must work out its own salvation. To attempt to reform the whole constitution of the British Medical Association was a business that it was useless to undertake.

Dr. RITCHIE said that he could see no insurmountable difficulty in transforming the British Medical Association.

Dr. GLOVER said that he thought the General Medical Council had passed a resolution which had met with the general support and approval of the profession with regard to touting by medical aid associations, and he believed that he spoke the mind of his colleagues when he said that the Council was quite prepared to give practical effect to the resolution they had passed last year as soon as they had an actual case before them. Did Mr. Garrett Horder or any other member present there really expect that the Council should act without an actual and concrete case before them? The law of the land was that if a man committed a murder he was to be hanged, but surely Mr. Horder would agree that the man must commit the murder first and then the case must be proved before the man was hanged. There was no one but would admit that these two preliminary steps were at least necessary, and if Mr. Horder would present a case he would promise him the attention of the Council in accordance with its resolution that was passed last year.

Dr. HIME declared that Dr. Glover had made a perfectly charming answer and nobody was disappointed in the least. In the British Medical Association there was a system of election of the same set from generation to generation and the government was too much from headquarters.

Dr. BRASSEY BRIERLEY said that the funds of the association were their own money and they must use them. It had been decided that the council of the association was bound to carry out the resolutions of the annual general meeting. The association was a limited liability company and the council was an illegally constituted body. If the annual meeting chose to elect the council it could do so as the directors of the company.

Mr. GARRETT HORDER said the time had come for the redistribution of the branches of the association. In regard to the General Medical Council it had given warning that it disapproved of touting by medical associations, and it was not reasonable of Dr. Glover to say, "Send up a concrete case," because he (Mr. Horder) was certainly not going to send up the names of medical men in Cardiff who were connected with medical aid associations and render himself liable to action for libel.

The CHAIRMAN suggested that this might be done by some association and the discussion closed.

THE CONCILIATION BOARD.

Dr. A. COX said that he asked the conference to approve of the general principle of a conciliation board chiefly on the grounds that such a board could not do any harm. He had heard no reason adduced why they should not have this board. They had not been told of any other method by which they would get better terms from the friendly societies. In regard to the appointment of the representatives it was suggested that the British Medical Association should appoint a committee to confer with the friendly societies, and if the council of the British Medical Association could not do it he asked who could?

Mr. BROADBENT suggested the conference they were attending.

Dr. COX said that the conference could not do it because it had not enough influence. Dr. Cox concluded with the following motion:—

That this conference approves of the general principle of a conciliation board on the understanding that the findings of such a board are not necessarily binding on the profession and request the council of the British Medical Association to appoint a small committee to confer with the representatives of the friendly societies for the purpose of drawing up a scheme for the formation of such a board.

Mr. WHITAKER seconded the motion and, in reply to Mr. Broadbent's suggestion that that conference should appoint the committee, said that the conference represented nobody but a small number of societies scattered throughout the country. He did not consider that they ought to adopt an impracticable *non possumus* attitude on all public questions.

Dr. W. GRAHAM moved as an amendment:—

That this conference deems it undesirable to encourage contract practice and furthermore declares that if any proposed representative conciliation board *re* club practice be constituted it should be elected from general practitioners.

Mr. BROADBENT seconded this amendment.

Dr. RATCLIFF GAYLARD objected to a conciliation board. No one had a right to ask medical men to go and try to conciliate the friendly societies. Club practices existed for the good of friendly societies, not for the benefit of the medical men. Medical men were not averse to having a conference, but they were averse to anything like a conciliation board.

Dr. F. REES pointed out that the General Medical Council was independent of the practitioners and ought not to legislate on this matter. They did not object to a conference between real *bonâ fide* representatives of the general practitioners and the friendly societies.

Mr. WOLSTENHOLME said that the friendly societies contended that it would be a semi-legal board to settle finally the questions between the societies and the medical men, with the acceptance on the part of medical men that they gave up their contention for a wage limit.

Dr. A. B RITCHIE said that the easiest way to find out what the friendly societies proposals were was to ask the British Medical Association to get the information for them. Gentlemen at that conference had spoken in ignorance of the efforts that had been made to get these details, of the long correspondence that had taken place to find out what this conciliation board really meant. The practical outcome was that it had been found that the only way to influence the friendly societies was to go to the men at the head of affairs. These societies must be worked from the top and not from the bottom.

Dr. HIME said that to talk of their going to consult the friendly societies in the vague way proposed was to bring that conference into contempt. He asked what was meant by a conciliation board. Whom were they to conciliate and what or about what was the conciliation to be?

The CHAIRMAN then put Dr. W. Graham's amendment to the meeting and declared it carried.

Dr. A. COX explained to the conference that it was perfectly well understood that any conciliation board or whatever they cared to call it would not have the power to bind the profession.

Mr. WOLSTENHOLME said that he had seen it stated in the medical papers that the board was to be a quasi-legal conference.

Mr. GARRETT HORDER said that the men to meet the friendly societies were those who had clubs. He considered that the members of the General Medical Council who had met the members of the friendly societies had given the whole case of the profession away. The members of the friendly societies laid it down distinctly and the members of the General Medical Council agreed that a wage-limit should never be discussed at the conciliation board.

Dr. RATCLIFF-GAYLARD proposed the following amendment:—

That whilst in the opinion of this conference the proposed conciliation board is unnecessary it will welcome a conference for the purpose of finding some means of agreement. The members of such conference shall be general medical practitioners in actual practice.

This was put to the meeting by the CHAIRMAN and carried as was also the following addition proposed by Mr. WHITAKER:—

And that it be referred to the Provisional Committee of this conference to consider how this resolution can be carried into effect.

Mr. WOLSTENHOLME made the following propositions which were carried:—

That the conference appoint a Provisional Committee to carry out its decisions.

That this Provisional Committee be instructed as follows:—1. To lay the resolution on medical organisation before the Council of the British Medical Association and request them to organise a permanent medico-political and medico-ethical department on the lines therein described. 2. Failing success, to formulate rules for the formation of an entirely new organisation on the lines described in that resolution and to submit the same next year to a conference similar to the present one for consideration and adoption.

The following were appointed members of the Provisional Committee with power to add to their number: R. H. Wolstenholme, S. Crawshaw, A. Cox, G. H. Broadbent, T. Garrett Horder, A. B. Ritchie, J. S. Whitaker, T. W. Hime, G. A. Wright, G. Jackson, L. Browne, M. Greenwood, J. A. Macdonald, A. G. C. Irvine, H. E. Dixey, W. A. Carline, E. Jepson, F. Rees, R. R. Rentoul, T. M. Dolan, J. Ratcliff-Gaylard, and W. M. Smith.

The proceedings of the conference then terminated.

THE ROYAL SOCIETY'S CONVERSAZIONE.

IF the exhibition held annually in the rooms of the Royal Society at Burlington House may be taken as in a measure an index of a year's scientific work then the record of the past year must be of the dullest possible description. At any rate, it has admitted of no very striking demonstration judging from the very meagre and almost colourless character of the exhibits brought before the visitors on the occasion of the conversazione held on Wednesday last. Most of the subjects illustrated in experiments or otherwise, had indeed been demonstrated on previous occasions, while others were quite familiar.

Mr. SHENSTONE'S demonstration of the "workability" of silica in the oxy-hydrogen blowpipe attracted, perhaps, most interest. He showed several forms of apparatus constructed of vitreous silica, including a long tube for use with a platinum thermometer, a mercury thermometer, bulbs and stems for thermometers, a Geissler tube, a small distillling tube and rods, and tubes of various sizes for various purposes. The fused silica presents exactly the appearance of blown glass, but of course its melting point is infinitely higher. Mr. H. B. HARTLEY, with whom was Mr. H. L. BOWMAN, M.A., gave a very interesting demonstration of the properties of crystals yielding doubly-refracting liquids on fusion. Hence the term "liquid crystals." Certain crystalline organic compounds have been found to give, on melting, liquids possessing the properties of double refraction and dichroism even under conditions wherein a state of strain is impossible. When these an-isotropic liquids are further heated they change at definite temperatures of transition into ordinary isotropic liquids. The intermediate bodies have been called "liquid crystals" because while the evidence of their elasticity, viscosity, and dielectric capacity shows them to be undoubtedly liquids, yet like crystals they possess both double refraction and dichroism. A very successful demonstration was given in which the physical changes indicated as taking place on a microscope slide were projected by means of the electric lantern and microscope upon a screen. In the next room a clock was shown under control at some distance by wireless telegraphy or Hertzian waves. The exhibit is the invention of Mr. Isaac H. Storey, and it consists of a receiving instrument with a coherer attached to the clock. A transmitting instrument in another part of the room sets up the waves which actuate the movement of the hands of the clock which are under complete control. Of course there are no wires or tubes intervening and the demonstration was very instructive in showing how movement could be excited without any visible means of communication. The exhibitor, Mr. RICHARD KERR, F.G.S., suggests a system of synchronising clocks in this way from a central clock keeping standard time and also the guiding of boats or torpedoes. Mr. WIMSHURST, F.R.S., showed a powerful influence machine constructed with 12 plates of vulcanite which is suitable in size, durability, and efficiency for either screen or photographic work in the hospital or on the battle-field.

A beautiful collection of examples of leadless glazed ware was shown by Professor T. E. THORPE. We may point out that more than a year ago we invited the medical profession to inspect in THE LANCET Laboratory similar examples of leadless glazed ware which had been carefully tested by our Commissioners with results which, as regards lead, were quite negative. Despite the hostile criticism which our inquiry provoked we now find all the leading pottery manufacturers sending specimens of leadless glaze to the Royal Society Conversazione as examples of what can be done without the use of lead at all. Amongst the prettiest experiments, though not conducted on a very large or striking scale, were those by Professor MINCHIN in which he showed the flashes induced in a helion tube by Hertzian waves.

Some amusing experiments were shown by Professor SILVANUS P. THOMPSON, in which he reversed the De la Rue's experiment, employing a floating magnet instead of a floating battery. A complete outfit of instruments for the use of travellers desirous of making anthropometric observations on native races or on the inhabitants of any special locality whether at home or abroad formed the interesting exhibit of Dr. J. G. GARSON. By taking impressions of the lines on the thumb the identity of a person could be established and thus an interesting system could be set up by means of which the identification of criminals could be established. Dr. PATRICK MANSON showed an excellent series of microscopical mounts of longitudinal sections of filariated mosquitoes, showing that *filaria nocturna*, like the malaria parasite, leaves its mosquito host *vid* the proboscis. The insects were killed about three weeks after feeding on a girl in whose blood embryo filariæ abounded. In insects similarly fed and subsequently killed at serial intervals and "sectioned" the passage of the filaria from the stomach to the thoracic muscles and their development there could readily be followed. The sections under the

microscopes (by Baker, Holborn) showed that when development is completed, in about 16 days, the filaria quits the thorax and becomes lodged in the head of the insect below the cephalic ganglia, whence it passes into the proboscis. It does not enter by the salivary duct, as is the case with the malaria parasite, but breaks through the base of the proboscis, passing along the upper surface of the labium between this organ and the hypo-pharynx. It is to be presumed that when the mosquito next attacks man the filaria enters by the wound made by the stilette.

There were several other exhibits of minor interest or of interest at all from the medical point of view. It should be added, however, that Sir ANDREW NOBLE, K.C.B., gave an electric lantern demonstration on modern explosives which illustrated the effects chiefly of erosion in guns and the results of experiments made with the object of minimising this erosion.

ANNUAL MEETING OF THE NEW ZEALAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

As mentioned at length in our columns last week[1] the Branch met at Christchurch, New Zealand, on Monday, Feb. 19th, the principal events of which day were the reception of the annual report, the election of officers, and the delivery of the Presidential Address by Dr. WALTER THOMAS.

On Tuesday, Feb. 20th, Dr. MASON and Dr. MARTIN read papers on Cancer.—In the discussion Mr. P. CONNOLLY said that, speaking from memory, he did not think there had been so many cases of cancer within the last five years as before that time, decidedly not as regards cancer of the breast. He had excised a tumour from the breast of an elderly woman, but it recurred in three months; he then performed a second more extensive operation, and on her death, 13 years afterwards, there was no trace of disease on that side, but the opposite side was a mass of cancerous tissue.—Dr. D. COLQUHOUN said that the death-rate from cancer was considerably higher in the colonies than in England, although the general death-rate was higher in England than in the colonies.—Dr. SCOTT, Dr. H. C. BARCLAY, and Dr. W. THOMAS also took part in the discussion.

In the evening Mr. MORTON ANDERSON read a paper by Mr. MARTINDALE KENDALL on Atropine in Ophthalmology.—Dr. L. S. MANNING, Mr. E. P. S. GANE, Mr. MORTON ANDERSON, and Dr. G. R. SAUNDERS joined in the discussion, the general preference being for homatropine rather than atropine.—Dr. SAUNDERS read a paper on Empyema of the Antrum of Highmore.—In the discussion Dr. SCOTT said that cases of empyema of the antrum were much more common than was generally supposed. For opening the antrum he used Curtis's nasal trephine in connexion with a dental engine.—Dr. MASON said that he had had to wash out the antrum many times; he preferred to enter it by extracting a tooth.—Mr. CONNOLLY, Dr. MANNING, Dr. J. P. FRENGLEY, and Mr. MORTON ANDERSON also made remarks.

On Wednesday morning, Feb. 21st, Dr. COLQUHOUN read a paper on Diseases Requiring Institutional Treatment, including under this heading inebriety, epilepsy, and phthisis. Inebriety, he said, was a disease to be ranked with epilepsy and other obscure diseases of the cerebral nerve centres. In the institutional treatment of it some classification would have to be adopted, and a line should, if possible, be drawn between the criminal and non-criminal sections of the population. To send an habitual drunkard to gaol was unreasonable and tended to increase the evil; it ought to be a magistrate's duty to send such a person to be detained in a properly constituted home for not less than 12 months. In case of relapse there should be a gradually increasing scale of committal. The present public asylums for lunatics might be utilised for the homes to be established, and a suitable staff for nursing and governing purposes would require to be provided. For the non-criminal classes separate homes should be provided in each provincial centre and each inmate should regularly do some work and have regular physical and mental exercise. The question of cost perhaps stood in the way of the adoption of such a system, and perhaps a vague fear prevailed that the liberty of the subject would be imperilled. The chief obstacle was the inertia of the public and their representatives. Dealing with epilepsy Dr. Colquhoun said that it was a form of suffering in many respects analogous to inebriety, and in New Zealand there were probably a thousand epileptics. In Holland the State had undertaken the duty of looking after these unfortunates, and in England and America private benevolence had provided for some of them and wherever homes had been founded they had been remarkably successful. Homes for epileptics should differ from inebriate establishments as being wholly places of voluntary retreat, and as farm and garden work had been found most suitable for epileptics the site for such homes would naturally be chosen in the country. Ordinary hospital treatment had been tried in connexion with consumptives and had not proved satisfactory, therefore special institutions were advocated. In the chronic stages of established disease and in its earlier stages they wanted for the patients conditions the opposite of those to be found in ordinary hospitals. The rule for many years—"live in the open air"—had resulted in many brilliant successes and as many lamentable failures. What was wanted for patients was pure air night and day, good food regularly administered, and careful personal supervision of each case. In each provincial district, he suggested, a beginning should be made with a small cottage hospital for the treatment of consumption; the sites should be sunny, dry, and far enough away from the large towns to secure pure air and quietness with sufficient ground for exercise, planted with trees to secure shelter from prevailing winds. A special medical officer should be appointed whose whole time should be devoted to the patients and the governing of the institution. The patients should be subject to ordinary hospital rules and should be of the class of people to whom the State grants hospital aid. No doubt there were localities in the colony more favourable than others for consumptives, and it had been asserted that the future sanatoria should be in these favourable places. His own experience was that at first, at least, they should make use to the utmost of the climate at their doors. He did not think there was any part of New Zealand unsuited for the treatment of consumption. The greater number of cases occurred in towns, and institutions could be established and kept up at less cost in the vicinity of the cities.—Dr. SCOTT, Dr. SAUNDERS, Dr. TRUBY KING, Dr. BARCLAY, Dr. A. F. J. MICKLE, and Dr. THOMAS took part in the subsequent discussion.

In the afternoon Dr. J. IRVING read a paper on Tuberculosis.—Dr. MICKLE moved and Dr. MASON seconded the following motion:—

That the Association take such steps as may be desirable to endeavour to have a New Zealand Branch of the National Association for the Prevention of Consumption and other Tuberculous Diseases established in the colony.

Dr. COLQUHOUN, Dr. MARTIN, Mr. CONNOLLY, Dr. TRUBY KING, and Mr. GANE, also took part in the discussion.—Dr. MASON read a paper on Direct Medication of the Lungs in Tuberculosis.—Mr. MORTON ANDERSON said that he was quite against the use of inhalers. He thought that patients took creosote most readily in a pill formed of fresh bread, and in many cases after the administration of this drug he had known the appetite to increase.—Dr. MICKLE, Dr. COLQUHOUN, and Dr. J. IRVING also joined in the discussion.

The annual dinner was held in the evening.

On Thursday, Feb. 22nd, the Canterbury Jockey Club's summer meeting took place. In the evening Mr. W. H. OVENDEN gave a Demonstration of the X Rays.

On Friday, Feb. 23rd, in the morning a report was presented by the sub-committee on tuberculosis and some other diseases recommending (1) that each section of the Branch should try to get its own local authorities to take in hand the manner of checking tuberculosis on the lines adopted by such municipalities as Glasgow, Berlin, &c.; (2) that this Branch of the Association agrees to use all means in its power to secure State help in the treatment of inebriety, epilepsy, and consumption by the establishment of suitable homes; (3) that there should be included in the school curriculum of every child instruction in the simpler and more essential requirements of healthy living; (4) that a deputation be appointed to wait on the Premier to bring the opinions of the Branch before him; and (5) that the papers read by Dr. J. Irving and Dr. Colquhoun be published. The report was adopted and a deputation of four members was appointed.—Dr. TRUBY KING read a paper

[1] THE LANCET, May 5th, pp. 1268 and 1317.

on Certain Questions in Relation to Persons Suffering from Mental Diseases.—Dr. SCOTT, Dr. J. IRVING, Dr. COLQUHOUN, Dr. YOUNG, Dr. MICKLE, and Dr. THOMAS discussed the paper.

In the afternoon Dr. J. IRVING read a paper on Vaccination, which was subsequently discussed by Mr. CONNOLLY, Dr. MICKLE, Dr. MASON, and Dr. GRAHAM CAMPBELL.

In the evening Dr. SCOTT and Dr. MASON each read a paper on Public Health. They considered that the time had come for a consolidation of all the various Acts that had been passed since the adoption of the Public Health Act of 1876. It was suggested that something of the nature of what had been done by Victoria should be adopted in New Zealand. The Public Health Act of Victoria provided a Central Board of Health, consisting of a chairman (permanent head of department), medical inspector, and seven members elected for three years by groups of municipal councils. These members were paid travelling expenses and one or two guineas for each attendance. It was provided that they should appoint a medical inspector, who should be an expert in sanitary science and should receive an annual salary of not less than £1000, an engineering inspector, a secretary, and such other inspectors, health officers, clerks, and officers as might be deemed necessary. The appointment of a medical officer of health was incumbent on each local board at a salary of not less than £10 per annum. Dr. Scott said that medical officers of health in New Zealand were required under penalty to send in reports of infectious diseases occurring in their practices, but in the country districts with which he was acquainted the reports were shelved or destroyed, no records were filed, no action was taken in the matter of inspection, investigation, or attempt at prevention of the spread of diseases, no tabulated annual report was furnished to the central board, the Public Morgues Act of 1886 was a dead letter, and nearly all of the sanitary provisions with which sanitarians were acquainted were in abeyance. A department of public health was required, with permanent officers, including chief medical officer, engineer and surveyor, and one medical officer of health in each of the large centres, who should not be permitted to engage in private practice, but who might be pathologist, general investigator in medico-legal matters, and supervising officer over the rural medical officers. A diploma in sanitary science should be possessed by this officer. No local board should have a district of less area than a county. Every rural local board should be required to appoint a medical officer and inspector of nuisances, subject to the approval and holding office during the pleasure of the Central Board. Dr. Mason suggested that the Conference should pass a motion empowering the Parliamentary Secretary to bring the matter before the Government. He felt certain, judging by the attitude which the Government had always shown with regard to matters pertaining to the conservation of the general health, that if these recommendations were presented, backed up, as they were, by a large number of medical men, some reform would at once take place.—An animated discussion followed which was joined in by Dr. COLQUHOUN, Dr. TRUBY KING, Dr. GRAHAM CAMPBELL, Mr. CONNOLLY, Dr. THOMAS, Dr. SYMES, Mr. MORTON ANDERSON, Dr. MICKLE, and Dr. FRENGLEY.—On the motion of Dr. MASON, seconded by Dr. GRAHAM CAMPBELL, it was resolved:

That this meeting authorises the Parliamentary Secretary to bring the matter of public health before the Government and to forward a copy of the papers of Dr. Scott and Dr. Mason to the Municipal Association.

The proceedings having now terminated, votes of thanks were passed to the city council authorities for the use of the room in which the Conference had met, to the Government, to the Canterbury Jockey Club, to the officers of the Branch, and to the ladies of Christchurch who had shown such hospitality to the visitors.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6896 births and 4362 deaths were registered during the week ending May 5th. The annual rate of mortality in these towns, which had declined from 23·0 to 20·3 per 1000 in the four preceding weeks, further decreased to 19·6 last week. In London the rate was 19·0 per 1000, while it averaged 20·0 in the 32 provincial towns. The lowest death-rates in these towns were 13·3 in Gateshead, 13·4 in Portsmouth, 13·8 in Burnley, and 14·0 in Hull; the highest rates were 27·2 in Manchester, 27·6 in Plymouth, 28·1 in Blackburn, and 30·3 in Wolverhampton. The 4362 deaths in these towns included 429 which were referred to the principal zymotic diseases, against 432 and 472 in the two preceding weeks; of these 167 resulted from measles, 126 from whooping-cough, 58 from diphtheria, 32 from scarlet fever, 28 from diarrhœa, and 18 from "fever" (principally enteric). No fatal case of any of these diseases occurred last week in Sunderland; in the other towns they caused the lowest death-rates in Croydon, Birkenhead, Halifax, Hull, and Gateshead; and the highest rates in Plymouth, Cardiff, Wolverhampton, Salford, and Blackburn. The greatest mortality from measles occurred in Plymouth, Bristol, Cardiff, Derby, and Blackburn; from scarlet fever in Oldham and Blackburn; and from whooping-cough in Portsmouth, Wolverhampton, Bolton, Manchester, Salford, and Oldham. The mortality from "fever" showed no marked excess in any of the 33 towns. The 58 deaths from diphtheria included 21 in London, five in Leeds, five in Sheffield, four in West Ham, four in Bristol, and four in Liverpool. No fatal case of small-pox was registered last week either in London or in any of the 32 provincial towns. There were six cases of small-pox under treatment in the Metropolitan Asylums Hospitals on Saturday last, May 5th, against three, four, and six at the end of the three preceding weeks; but no new case was admitted during the week. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1660, against numbers decreasing from 1713 to 1647 on the four preceding Saturdays; 176 new cases were admitted during the week, against 189, 165, and 170 in the three preceding weeks. Influenza was certified as the primary cause of 27 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had been 501, 460, and 411 in the three preceding weeks, rose again to 417 last week, and were 93 above the corrected average. The causes of 52, or 1·2 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Salford, Bradford, Leeds, and in nine other smaller towns; the largest proportions of uncertified deaths were registered in Norwich, Liverpool, Blackburn, Hull, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 21·0 and 21·7 per 1000 in the two preceding weeks, declined again to 20·5 during the week ending May 5th, but exceeded by 0·9 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 15·9 in Leith and 17·9 in Paisley to 21·9 in Perth and 23·1 in Edinburgh. The 635 deaths in these towns included 24 which were referred to whooping-cough, 15 to measles, 13 to diarrhœa, six to diphtheria, six to "fever," and two to scarlet fever. In all 66 deaths resulted from these principal zymotic diseases, against 65 and 75 in the two preceding weeks. These 66 deaths were equal to an annual rate of 2·1 per 1000, which was 0·2 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had increased from 15 to 23 in the four preceding weeks, further rose last week to 24, of which 14 occurred in Glasgow, five in Aberdeen, and two in Edinburgh. The deaths from measles, which had been 18 and 24 in the two preceding weeks, declined again to 15 last week, and included 11 in Glasgow and two in Edinburgh. The fatal cases of diarrhœa, which had declined from 19 to 13 in the four preceding weeks, were again 13 last week, of which four were registered in Glasgow, four in Aberdeen, and three in Dundee. The deaths from diphtheria, which had been three and five in the two preceding weeks, further rose to six last week, and included two in Edinburgh and two in Aberdeen. The fatal cases of "fever," which had been five and two in the two preceding weeks, further rose last week to six, of which five occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 145 and 141 in the two preceding weeks, further declined last week to 120, but

slightly exceeded the number in the corresponding period of last year. The causes of 38, or nearly 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 34·3, 30·4, and 28·9 per 1000 in the three preceding weeks, rose again to 29·7 during the week ending May 5th. During the past four weeks the death-rate in the city has averaged 30·3 per 1000, the rates during the same period being 20·1 in London and 20·7 in Edinburgh. The 199 deaths registered in Dublin during the week under notice were 21 in excess of the number in the preceding week, and included 11 which were referred to the principal zymotic diseases, against 12 and eight in the two preceding weeks; of these, six resulted from "fever," four from whooping-cough, one from diarrhœa, and not one either from small-pox, measles, scarlet fever, or diphtheria. These 11 deaths were equal to an annual rate of 1·6 per 1000, the zymotic death-rate during the same period being 1·8 in London and 1·4 in Edinburgh. The deaths referred to different forms of "fever," which had been three in each of the two preceding weeks, rose to six last week. The fatal cases of whooping-cough, which had been one, two, and two in the three preceding weeks, further rose last week to four. The mortality from diarrhœa showed a decline from that recorded in recent weeks. The 199 deaths in Dublin last week included 33 of infants under one year of age and 44 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons exceeded the numbers registered in the preceding week. 12 inquest cases and six deaths from violence were recorded, and 69, or more than a third, of the deaths occurred in public institutions. The causes of nine, or nearly 5 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING APRIL, 1900.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in each of the 43 sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6·2 per 1000 of the population, estimated at 4,589,129 persons in the middle of the year. In the three preceding months the rates had been 8·0, 7·0, and 6·6 per 1000 respectively. The rates were considerably below the average in Paddington, St. George Hanover-square, St. Giles, Strand, Clerkenwell, and St. Olave Southwark; while they showed the largest excess in Whitechapel, St. Saviour Southwark, St. George Southwark, Bermondsey, Woolwich, and Plumstead sanitary areas. Eight cases of small-pox were notified during April, of which four belonged to St. Pancras, three to Marylebone, and one to Hackney sanitary areas; nine small-pox patients were admitted into the Metropolitan Asylums Hospitals during April, and six remained under treatment at the end of the month. The prevalence of scarlet fever showed a further slight increase upon that recorded in recent months; among the various sanitary areas this disease was proportionally most prevalent in St. James Westminster, Whitechapel, St. George Southwark, Wandsworth, Greenwich, and Woolwich. The Metropolitan Asylums Hospitals contained 1619 scarlet fever patients at the end of April, against 2126, 1827, and 1654 at the end of the three preceding months; the weekly admissions averaged 174, against 180, 152, and 162 in the three preceding months. The prevalence of diphtheria showed a continued decrease from that recorded in the preceding months of this year; the proportional prevalence of this disease was greatest in Holborn, St. Saviour Southwark, St. George Southwark, Bermondsey, Woolwich, and Plumstead sanitary areas. There were 1131 diphtheria patients in the Metropolitan Asylums Hospitals on Saturday, April 28th, against 1572, 1402, and 1236 at the end of the three preceding months; the weekly admissions averaged 135, against 189, 165, and 148 in the three preceding months. The prevalence of enteric fever in London showed a further marked decrease from that recorded in recent months among the various sanitary areas this disease was proportionally most prevalent in St. Pancras, Stoke Newington, Whitechapel, St. Saviour Southwark, Bermondsey, and Rotherhithe. The Metropolitan Asylums Hospitals contained 208 enteric fever patients at the end of April, against 289, 274, and 263 at the end of the three preceding months; the weekly admissions averaged 27, against 40, 40, and 36 in the three preceding months. Erysipelas was proportionally most prevalent in City of London, Bethnal-green, Whitechapel, Limehouse, Woolwich, and Plumstead sanitary areas. The 21 cases of puerperal fever included two each in Westminster, Shoreditch, Bethnal-green, Poplar, and Bermondsey sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the public institutions of London having been distributed among the sanitary areas in which the patients had previously resided. During the four weeks ending April 28th the deaths of 7128 persons belonging to London were registered, equal to an annual rate of 20·2 per 1000, against 27·3, 20·4, and 19·1 in the three preceding months. The lowest death-rates last month in the various sanitary areas were 13·6 in Hampstead, 15·0 in Stoke Newington, 15·8 in Hackney, 16·6 in Paddington, 17·3 in Battersea, and 17·6 in Camberwell; the highest rates were 25·5 in Bermondsey, 27·0 in Woolwich, 27·5 in St. Olave Southwark, 30·4 in Holborn, 32·3 in St. George Southwark, and 35·6 in Limehouse. During the four weeks of April 632 deaths were referred to the principal zymotic diseases in London; of these, one resulted from small-pox, 239 from measles, 31 from scarlet fever, 87 from diphtheria, 190 from whooping-cough, 45 from enteric fever, and 39 from diarrhœa. These 632 deaths were equal to an annual rate of 1·8 per 1000, against 1·9, 1·8, and 1·7 in the three preceding months. No death from any of these diseases was recorded last month in St. Martin-in-the-Fields; in the other sanitary areas they caused the lowest death-rates in Paddington, St. George Hanover Square, Stoke Newington, City of London, Camberwell, and Lee, and the highest rates in St. Pancras, Holborn, St. Luke, Limehouse, Rotherhithe, and Lewisham (excluding Penge). The fatal case of small-pox belonged to Marylebone sanitary area. The 239 deaths from measles were 69 below the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Hammersmith, Westminster, St. Pancras, Strand, Limehouse, and Rotherhithe sanitary areas. The 31 fatal cases of scarlet fever showed a decline of 30 from the corrected average number; the greatest proportional fatality from this disease occurred in Fulham, St. George Hanover-square, Shoreditch, Whitechapel, Wandsworth, and Lewisham sanitary areas. The 87 deaths from diphtheria were 55 below the average number in the corresponding periods of the ten preceding years; among the various sanitary areas this disease was proportionally most fatal in Fulham, Chelsea, Shoreditch, St. Saviour Southwark, Bermondsey, and Lewisham. The 190 fatal cases of whooping-cough showed a decline of 84 from the corrected average number; this disease showed the highest proportional fatality in Hackney, St. Luke, Bethnal Green, Limehouse, Greenwich, and Lewisham sanitary areas. The 45 deaths referred to enteric fever were considerably in excess of the corrected average number in the corresponding periods of the ten preceding years; among the various sanitary areas this disease was proportionally most fatal in Fulham, Chelsea, Hampstead, St. Pancras, Bermondsey, and Lambeth. The 39 fatal cases of diarrhœa showed a marked decline from the corrected average number; the greatest proportional fatality from this disease was recorded in Hammersmith, Marylebone, St. George in the East, and Poplar sanitary areas. In conclusion, it may be stated that the aggregate mortality from these principal zymotic diseases in London during April was more than 26 per cent. below the average.

Infant mortality in London last month, measured by the proportion of deaths of children under one year of age to registered births, was equal to 135 per 1000. The lowest rates of infant mortality were recorded in Chelsea, St. James Westminster, Stoke Newington, Hackney, St. Giles, Clerkenwell, and St. Olave Southwark sanitary areas; and the highest rates in St. Martin-in-the-Fields, Holborn, St. George-in-the-East, Limehouse, St. George Southwark, and Rotherhithe.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING APRIL, 1900.

(Specially compiled for THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1900.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of Infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,589,129	8	894	747	—	209	5	21	314	—	2198	6·2	1	239	31	87	190	—	45	—	39	632	1·8	7128	20·2	135
West Districts.																										
Paddington	130,104	—	11	13	—	4	—	1	10	—	41	4·1	—	1	—	—	3	—	—	—	4	0·4	166	16·6	144
Kensington	173,403	—	25	31	—	4	—	—	13	—	73	5·5	—	16	—	2	2	—	—	—	22	1·7	241	18·1	137
Hammersmith	110,203	—	10	14	—	6	—	—	9	—	39	4·6	—	15	—	—	1	—	—	—	3	17	2·0	179	21·1	160
Fulham	136,383	—	32	33	—	6	1	1	11	—	84	8·0	—	5	3	6	1	—	—	3	—	17	1·6	200	19·1	108
Chelsea	96,715	—	16	22	—	4	—	1	6	—	49	6·6	—	7	—	3	1	—	—	3	1	15	2·0	148	19·7	97
St. George Hanover-square	81,133	—	10	3	—	6	1	—	4	—	24	3·9	—	2	—	—	1	—	—	1	1	7	1·1	113	18·2	148
Westminster	51,657	—	10	8	—	2	—	2	5	—	27	6·8	—	6	—	1	3	—	—	—	1	10	2·5	100	25·2	127
St. James Westminster	21,457	—	6	1	—	—	—	—	1	—	8	4·9	—	1	—	1	1	—	—	—	1	3	1·8	35	21·3	103
North Districts.																										
Marylebone	139,777	3	20	11	—	4	—	—	14	—	52	4·8	1	5	1	3	4	—	—	—	3	17	1·6	236	22·0	116
Hampstead	81,766	—	15	3	—	—	—	—	3	—	27	4·3	—	6	—	—	—	—	2	—	—	8	1·3	85	13·6	114
St. Pancras	245,751	4	32	36	—	20	—	1	8	—	101	5·4	—	31	1	5	9	—	5	—	3	54	2·9	392	20·8	137
Islington	351,541	—	68	28	—	9	—	1	14	—	118	4·4	—	20	2	5	14	—	6	—	2	49	1·8	482	17·9	134
Stoke Newington	35,718	—	4	4	—	3	—	—	1	—	12	4·4	—	—	1	—	1	—	—	—	—	2	0·7	41	15·0	82
Hackney	225,519	1	45	34	—	8	—	1	13	—	100	5·8	—	—	3	3	17	—	2	—	—	25	1·4	273	15·8	103
Central Districts.																										
St. Giles	36,870	—	5	1	—	1	—	—	1	—	8	2·8	—	2	—	—	1	—	—	—	2	5	1·8	58	20·5	95
St. Martin-in-the-Fields	11,865	—	3	—	—	1	—	—	—	—	4	4·4	—	—	—	—	—	—	—	—	—	—	—	20	22·0	200
Strand	24,748	—	4	1	—	—	—	—	—	—	5	2·9	—	3	—	—	—	—	—	—	1	4	2·3	42	24·1	171
Holborn	29,168	—	5	9	—	—	—	—	3	—	17	7·6	—	4	1	—	1	—	—	—	1	7	3·1	68	30·4	353
Clerkenwell	66,007	—	6	5	—	3	—	—	3	—	17	3·4	—	5	—	1	3	—	—	—	—	9	1·8	103	20·3	106
St. Luke	40,865	—	10	1	—	2	—	—	2	—	15	4·8	—	4	—	—	5	—	—	—	—	9	2·9	79	25·3	86
City of London	26,922	—	3	3	—	1	—	—	3	—	11	5·3	—	1	—	—	—	—	—	—	—	1	0·5	49	23·7	189
East Districts.																										
Shoreditch	120,641	—	26	21	—	4	—	2	13	—	66	7·1	—	6	2	4	5	—	1	—	1	19	2·1	202	21·8	155
Bethnal Green	128,831	—	28	22	—	4	—	2	24	—	80	8·1	—	12	2	3	12	—	—	—	—	27	2·7	222	22·5	136
Whitechapel	82,220	—	41	23	—	9	—	1	13	—	87	13·8	—	2	2	2	7	—	—	—	1	14	2·2	153	24·3	110
St. George-in-the-East	48,375	—	7	9	—	3	—	1	4	—	24	6·4	—	1	—	—	2	—	1	—	3	7	1·9	94	25·1	179
Limehouse	58,944	—	10	9	—	3	—	—	9	—	31	6·9	—	8	1	1	7	—	—	—	—	17	3·8	161	35·6	205
Mile End Old Town	113,781	—	20	14	—	5	—	—	10	—	49	5·6	—	6	—	—	5	—	—	—	2	14	1·6	184	21·1	125
Poplar	170,968	—	23	19	—	10	—	2	7	—	61	4·7	—	5	1	3	8	—	1	—	4	22	1·7	302	23·0	—
South Districts.																										
St. Saviour Southwark	23,854	—	5	11	—	2	—	—	2	—	20	10·9	—	—	—	2	2	—	—	—	—	4	2·2	46	25·1	111
St. George Southwark	60,597	—	19	20	—	1	—	—	3	—	43	8·2	—	1	1	1	4	—	—	—	—	7	1·5	150	32·3	182
Newington	125,178	—	20	24	—	5	—	1	9	—	59	6·1	—	13	—	2	5	—	2	—	1	23	2·4	228	23·8	123
St. Olave Southwark	10,909	—	—	2	—	—	—	—	1	—	3	3·6	—	—	—	—	1	—	—	—	—	1	1·2	23	27·5	100
Bermondsey	85,920	—	24	30	—	8	—	2	3	—	67	10·2	—	2	—	—	6	—	3	—	—	16	2·4	168	25·5	144
Rotherhithe	41,246	—	6	8	—	4	—	—	4	—	22	7·0	—	3	1	—	2	—	1	—	—	13	4·1	73	23·1	247
Lambeth	312,152	—	53	57	—	17	2	—	10	—	139	5·8	—	11	1	6	9	—	7	—	—	31	1·3	452	18·9	130
Battersea	178,100	—	38	26	—	12	—	—	11	—	87	6·4	—	4	—	3	—	—	1	—	1	18	1·4	236	17·3	131
Wandsworth	217,004	—	61	22	—	8	—	—	19	—	110	6·6	—	17	3	3	—	—	—	—	3	26	1·6	297	17·8	104
Camberwell	268,457	—	49	62	—	10	—	—	14	—	135	6·6	—	2	1	8	6	—	2	—	—	22	1·1	363	17·6	153
Greenwich	184,582	—	61	43	—	8	1	—	14	—	127	9·0	—	4	—	5	17	—	2	—	—	28	2·0	278	19·6	165
Lewisham (excluding Penge)	93,548	—	17	25	—	3	—	—	4	—	49	6·8	—	—	2	5	15	—	—	—	—	22	3·1	140	19·5	112
Woolwich...	41,600	—	21	14	—	—	—	—	5	—	40	12·5	—	—	1	1	—	—	1	—	—	4	1·3	86	27·0	133
Lee	40,722	—	6	5	—	1	—	1	2	—	15	4·8	—	—	—	1	1	—	—	—	—	2	0·6	57	18·2	162
Plumstead	66,558	—	16	22	—	3	—	1	9	—	51	10·1	—	4	1	2	2	—	1	—	—	10	2·0	105	20·9	117
Port of London	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 20 cases of membranous croup.

† Including deaths from membranous croup.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

STAFF SURGEON H. P. SHUTTLEWORTH is appointed to the *President* for temporary service at the Royal Victoria Yard, Deptford.

ROYAL ARMY MEDICAL CORPS.

Surgeon-Captain R. S. Smith, A.M.R., has assumed temporary medical charge of troops, &c., at Barry Camp and Buddon Camp. Surgeon-Lieutenant-Colonel A. M. Adams, M.M.S., has assumed medical charge of troops, &c., which assemble at Lanark Muir during the season.

Surgeon-Captain Simon Linton, 1st Fife Volunteer Artillery, is granted the temporary rank of Captain whilst serving in South Africa.

Surgeon-Lieutenant W. Macrae Taylor, 1st Midlothian Volunteer Artillery, is granted the temporary rank of Lieutenant whilst serving in South Africa.

MILITIA MEDICAL STAFF CORPS.

Surgeon-Captain W. Waring to be Surgeon-Major.

YEOMANRY CAVALRY.

Gloucestershire (Royal Gloucestershire Hussars): Surgeon-Lieutenant-Colonel W. Wickham resigns his commission, with permission to retain his rank and to continue to wear the uniform of the regiment on his retirement. Surgeon-Captain Herbert Bramwell, from the 2nd Volunteer Battalion the Gloucestershire Regiment, to be Surgeon-Captain under paragraph 37 of the Yeomanry Regulations.

VOLUNTEER CORPS.

Artillery: 1st Gloucestershire: Surgeon-Lieutenant R. G. P. Lansdown to be Surgeon-Captain; James Richard Bibby to be Surgeon-Lieutenant. 4th West Riding of Yorkshire (Western Division, Royal Garrison Artillery): Archibald William Cuff to be Surgeon-Lieutenant. *Rifle:* 2nd Volunteer Battalion the Royal Warwickshire Regiment: John Orton to be Surgeon-Lieutenant. 5th (Irish) Volunteer Battalion the King's (Liverpool Regiment): John George Moyles to be Surgeon-Lieutenant. 3rd Glamorgan: Lieutenant George Arbour Stephens resigns his commission and is appointed Surgeon-Lieutenant. 6th Volunteer Battalion the Gordon Highlanders: Surgeon-Lieutenant Alfred Bell Whitton resigns his commission and is appointed Captain. 7th (Clackmannan and Kinross) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): George Thomas Sinclair to be Surgeon-Lieutenant.

VOLUNTEER MEDICAL STAFF CORPS.

The Manchester Companies: William Leonard Bentley to be Surgeon-Lieutenant.

MENTIONED IN DESPATCHES.

In a despatch from Lieutenant-Colonel R. G. Kekewich, commanding in Griqualand West and Bechuanaland, describing the operations in the vicinity of Kimberley from Sept. 13th, 1899, to Feb. 15th, 1900, when the relief of Kimberley was effected, the following passages occur:—

"Lieutenant C. J. O'Gorman, Royal Army Medical Corps, was the only officer of his corps in Kimberley and, in consequence, had much hard work and responsibility. I consider him a very valuable officer."

"*Volunteer Forces.*—Surgeon-Major J. A. J. Smith, attached to the Kimberley Regiment, rendered most valuable assistance to the wounded in the field. Surgeon-Lieutenant A. J. Ortlepp, attached to the Diamond Fields Artillery, also rendered considerable assistance to the wounded in the field."

"*Irregular Forces.*—Captain G. E. Heberden, Medical Officer, Kimberley Light Horse, frequently accompanied the mounted troops in the several sorties and reconnaissances round Kimberley and rendered most valuable services in attending to the wounded."

"*Citizens and others.*—Dr. W. Russell, M.D., resident surgeon, Kimberley Hospital, rendered services in connexion with the reception and treatment of the sick and wounded in the Kimberley Hospital, of which I cannot speak too highly. Dr. T. L. Shiels, M.B., assistant resident surgeon, Kimberley Hospital, did a considerable amount of hard work in attending to the wounded. I cannot speak too highly of the energy and zeal displayed by the following visiting surgeons, Kimberley Hospital: Dr. E. O. Ashe, Dr. A. H. Watkins, Dr. J. E. Mackenzie, Mr. J. Mathias, Dr W. J. Westerfield, and Dr. W. W. Stoney."

TRANSVAAL WAR NOTES.

News was received in Bristol last week that Major Mathias, R.A.M.C., and Mr. Paul Bush have accepted provisionally on behalf of Mr. Mosely (who fitted out the Princess Christian Hospital) the generous offer of the large estate of Pinetown by the owner as a site for the Princess Christian Hospital. The place is situated between Pietermaritzburg and Durban. The whole estate has been placed unreservedly at the disposal of the hospital staff. It is known in the district as "the Garden of Natal." It lies 1000 feet above sea level, and has an excellent water-supply. The hospital will be in close relationship with the Princess Christian Hospital train which will convey the injured and sick to the doors of the hospital buildings.

Of the 204 wounded soldiers who have been landed at Plymouth from South Africa during the past month only five are now receiving treatment at the Military Hospital, Stoke, all the remainder having been sent to their homes on sick furlough.

The following transports have arrived at Southampton: The s.s. *Purnia* from Bombay on April 27th, bringing 303 invalids; the s.s. *Mahratta* from the Cape on April 27th; and the s.s. *Nubia* from the same port on May 1st. The *Mahratta* brought home 30 and the *Nubia* 270 sick and wounded from South Africa. All the men were admitted into the Royal Victoria Hospital, Netley.

Civil Surgeon D. J. Peirson has left for South Africa in the transport *Mahratta*.

TRANSVAAL WAR CASUALTIES.

Captain H. Esmonde Dowse, R.A.M.C., died at Bloemfontein on May 5th, from enteric fever, aged 32 years.

THE SITUATION IN ASHANTI.

With the war in South Africa and the rapid and dramatic progress of events that has been so recently taking place there to absorb public attention the situation in Ashanti attracts but little notice. But neither it nor the present outlook can be regarded as by any means satisfactory. The Ashantis have given us a good deal of trouble and cost this country much money in fitting out military expeditions in the past, and if the news in the latest telegrams through Reuter's agency be well founded they are menacing Coomassie with the intention of obtaining possession of the Governor. It is quite possible, therefore, that a small expeditionary force may be hereafter required to settle matters with the Ashantis, in which case the fight with the climate is, after all, a more serious affair than a fight with that tribe. Apparently only prompt measures by a locally raised and organised force at the present time can avert further mischief.

DEATHS IN THE SERVICES.

Deputy-Inspector-General of Hospitals, James Boyd Fleming, at his residence, Manor-place, Edinburgh, on May 7th.

The following gentlemen have been nominated by the Secretary of State for War as Surgeons-on-Probation for the Royal Army Medical Corps, and have joined the Army Medical School at Netley:—Mr. W. M. H. Spiller, M.B., B.Ch. R.U.I., Queen's College, Belfast, and Royal College of Surgeons in Ireland, and Mr. J. B. Hall, L.S.A. Lond., Yorkshire College, Leeds.

Major D. Semple, M.D., R.A.M.C., who studied under the late M. Pasteur, will have charge of the new anti-rabic institute at Kasauli.

The Royal Military Tournament will be held from May 18th to June 2nd at the Royal Agricultural Hall, Islington.

YARROW CONVALESCENT HOME.—The report and balance-sheet of the Yarrow Home at Broadstairs for Convalescent Children of the Better Classes show that the institution is doing good work. The separate report of the medical officers, Mr. Frank Brightman and Mr. E. G. Moon, states that 938 children, of whom 466 were boys and 472 were girls, were admitted during the year; 684 returned to their homes thoroughly restored in health, whilst a very large proportion of the remainder were considerably benefited. The trustees have placed at the disposal of the special branch of the Officers' Relief Fund 30 beds for convalescent children of officers either killed or wounded in South Africa. The total income for the year was £3823, the expenditure was £4172, and the balance remaining in hand was £1383. The London offices are at 73A, Queen Victoria street, E.C.

Correspondence.

"Audi alteram partem."

THE INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS.

To the Editors of THE LANCET.

SIRS,—I beg to forward to you a copy of a letter to Professor Simpson of Edinburgh drafted at a meeting of the past and present teachers of gynæcology and obstetrics in the metropolitan medical schools now practising in London which was held at my house on Tuesday last.

You will observe that it is signed by everyone who comes under that description without, I believe, a single exception.

I need only add that our objection to the election of a president is in no way personal to the distinguished obstetrician to whom the enclosed letter is addressed. To many of us—certainly to myself individually, since he is one of my oldest and most valued friends—he would have been a *persona gratissima* for the post.

Our objection is not to the man but to the manner in which he was elected. I am, Sirs, yours faithfully,

Grosvenor-street, W., May 5th, 1900. W. S. PLAYFAIR.

[COPY.]

To Professor A. R. Simpson, M.D., President-elect of the International Congress of Gynæcology and Obstetrics.

38, Grosvenor-street, London, W., May 1st, 1900.

DEAR SIR,—We learn from a circular dated 37, Queen Anne-street, April, 1900, that it has been decided to "hold the Fourth International Congress of Gynæcology and Obstetrics in London, in 1902," under your presidency.

As past and present lecturers and teachers of obstetrics and gynæcology in the London medical schools we wish to explain to you, and especially to such of our foreign colleagues as might contemplate attending such Congress, that those who have issued this invitation have assumed a representative position to which they are, in our opinion, not entitled, and which we find ourselves unable to recognise. We cannot, therefore, take any share in promoting or joining in such Congress, but trust that you will accept our assurance that our decision has been arrived at with regret, and with no intention of discourtesy to yourself or other visitors, either British or foreign.

We are, dear Sir, very faithfully yours,

(Signed)	J. WATT BLACK, AMAND ROUTH, T. W. EDIS,	Charing Cross Hospital.
	A. L. GALABIN, P. HORROCKS, J. H. TARGETT,	Guy's Hospital.
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"THE REPORT OF THE LANCET SPECIAL COMMISSION ON GLYCERINATED CALF VACCINE LYMPHS."

To the Editors of THE LANCET.

SIRS,—Although I have reason to be well satisfied with the report of your Special Commissioner so far as its reference on my own vaccine is concerned I ask to be allowed to offer some critical remarks on the whole subject. And the first criticism I would venture to make is as to the worthlessness of the method of research adopted and the great waste of good intention and hard labour expended by the Commission. The unwary reader might suppose that the report would give him satisfactory information as to the efficacy of the various vaccines reported on. Not a bit of it. There is nothing whatever in the report to show that any one of the vaccines reported on at such length and with such labour ever produced a vaccine vesicle or could afford the least protection against small-pox!

The use of vaccine is to prevent or modify the action of the virus of small-pox. The only true test of the value of vaccine is its power to produce typical vaccine-pocks having a characteristic appearance and history—short of the real test of its effective antagonism to small-pox. Unfortunately, at present there is no method known of proving the efficacy of vaccine by microscopic, chemical, or bacteriological means before it is used. THE LANCET report says not one word as to the specific activity of the samples it reports on. Every one of them may have been absolutely worthless so far as power to vaccinate is concerned, and there is no evidence that the sample which occupies the most favourable position in the report was not perfectly inert as vaccine, nor that the sample which is placed at the bottom of the list was not excellent so far as its power to vaccinate, and much better in this, the essential quality, than samples reported on more favourably. The standard of quality set up by the Commission is *not* the vaccinating or protective power—the essential one—but the number of extraneous organisms present in the sample, though these have no relation to vaccination or protective power against small-pox—a standard which is of no value whatever so far as the utility of the vaccine, *qua* vaccine, is concerned, and, further, is a fictitious and entirely delusive guide.

The following anecdote well illustrates the worthlessness of the whole procedure. It was related to me by the head of one of [redacted] Government calf vaccine stations [redacted]-wide reputation for his scient[redacted]hes of bacteriology and p[redacted]an who first raised this [redacted]'mating the amount [redacted]number of extraneo[redacted]o protective pow[redacted]s vaccine for exa[redacted]l of the impertin[redacted], many years ol[redacted]stroyed. Some w[redacted]ost complimenta[redacted]g that it was in ev[redacted]swered to the absurd[redacted]erfect way and had no[redacted]ro-organism. But as vaccine[redacted]bsolutely useless—it contain[redacted]was incapable of producing a pock w[redacted]yet it was reported as being "perfect" ac[redacted]s other standard, which does not judge according to protective power. What a terrible awakening there would have been had medical men been induced by this report to rely on the "perfectly sterile" material to check an epidemic of small-pox such as that at Gloucester or Middlesborough.

And I would put it to THE LANCET in all seriousness whether a grave public danger is not created by its suggesting that the protective powers of the several vaccines reported on is in any degree indicated by the report of its Special Commission. Indeed, the report itself contains evidence that the Commission were aware that their labours were futile and might be misunderstood. On p. 1235, in a remarkable paragraph in which it is stated that "it is practicable for almost everyone" to make a satisfactory bacteriological examination of vaccine (though I doubt if more than a very small percentage even of the medical profession would claim the special knowledge required), it is stated that if anyone finds the number of colonies in successive plate cultures diminishes greatly he should not use the vaccine! Not that the vaccine is to be assumed on that account to be inert or even weak so far as its protective properties are concerned; on the contrary, as your Commissioner himself says, "it may be sound, and probably is." Just so! though bad from the Commission's point of view, "it may be sound, and probably is," as a protective against small-pox.

On p. 1234 there is a statement with which everyone must agree, but its truth shows from another point of view how valueless such a report is. It is there stated that "where the number of organisms in any sample is high it must be assumed, not that they are necessarily so in other samples of the same brand, but that the numbers probably vary in different samples" (!). I submit that if the samples reported on are not to be regarded as average specimens of the

respective brands the reports on them are of no value whatever. To inform your readers that certain brands reported on were good, but that the next sample of that brand may be bad; and that other brands examined were bad, but that for all you know they may be very good next time, is not instructive and is calculated to bring all scientific inquiry into ill-repute. Indeed, is it not to treat your readers as if you had a very low estimate of their intelligence when you inform them that the existence of a greater number of organisms in one sample, as compared with another, only means "that the numbers probably vary in different samples"?

That this warning against drawing any inference as to future samples of any brand of vaccine from your report on the samples examined by your Commissioner is called for must be abundantly clear from what precedes. But there are additional grounds for emphasising it. The small number of observations made with each brand renders the conclusions arrived at of no value, and no conclusion whatever worth drawing can be founded on the comparative merit of the various brands and samples owing to the fact that the same number of experiments was not made in each case and the character of the tests varied.

In the case of some brands five experiments were made, with others only two, while with the Local Government Board vaccine only one experiment was made. It is obviously unfair to draw positive conclusions from one sample of one brand when with other brands five times as many experiments were used. Even five observations are far too few. I can give you the evidence of gentlemen who have made thousands of successful experiments with my vaccine as a protective. Of what value are your two or three observations when compared with them? But a more serious objection lies in the fact that the number of days which the vaccine was kept was not the same with all samples. The solitary sample of the Local Government Board vaccine was kept only four days, while some of the other samples were kept for 10, 21, 33, 71, 125, &c., days. Scientific conclusions are not deducible from these varying data as to the comparative purity from extraneous organisms of the various brands (the report, as already stated, has nothing to say about the vaccinating and protective value of the various brands; they may be all perfect or all worthless in this the essential property of vaccine, so far as the report goes). As the glycerine has the property of destroying such extraneous organisms, obviously the longer a sample is kept the fewer colonies will appear in the cultures. But the *coup de grâce* is given to the report by your Commissioner himself on p. 1231. He is there dealing with a brand which gave an enormous number of colonies in one sample and in another succeeding sample gave none, and he proceeds: "*If such lymph retains its full activity* ..... the question of pure lymph is one that need no longer trouble the public." The italics are mine, but these remarkable words should be printed in capitals to attract due attention. Your Commissioner here for the first and only time seems to be alive to the fact that the real value of vaccine depends on whether it can vaccinate and not on whether a few extraneous organisms exist in it. "*If* it retains its full activity" when it contains but few extraneous organisms it is good vaccine; but even if it is absolutely devoid of all living organisms and yet cannot vaccinate it is useless vaccine. It is worse; it is a highly dangerous and delusive material the use of which might lead to the wide spread of an epidemic of small-pox and no matter whether your Commission reported favourably (as it necessarily would) or not such vaccine should be somehow suppressed. Vaccine reported by your Commission to be perfect from the bacteriological standard may be useless from the protective (the really valuable) standard, and *vice versâ*. Vaccine reported by you to be the worst in bacteriological quality may be the very best of the lot as a protective against small-pox so far as your report goes. A report of such a character is certainly not to be relied on. The presence of extraneous organisms might be a great source of danger if of a virulent kind. But your report says nothing as to the nature of the organisms present.

The standard taken by your Commissioner is, I submit, of no practical value and it is calculated to lead to entirely erroneous conclusions both as to the respective values and the relative values of the various brands and specimens. It would have been more satisfactory if some statement had been made as to tubes of vaccine received by your Commissioner but not reported on. In one case five tubes were received but only three are reported on. Why is there no statement as to the remaining two? If not used the fact and the reason for it ought to be mentioned. The manner in which unwarranted general conclusions are drawn from isolated and insufficient facts is frequently instanced in the report, but there is one which particularly calls for notice. A very bad tube of one brand is reported on and subsequently a very good one of the same brand was used. Thereupon your Commissioner gravely reports that this "affords evidence that greater care is now taken in the preparation and storage of this lymph." But there is no such evidence in the fact stated and no such conclusion is justifiable. There is not a particle of evidence to show that the very bad tube referred to was characteristic of the general supply of the institution it came from or that it was not merely one exceptionally and accidentally rich in extraneous organisms, nor does the finding of a single tube without any such organisms at a later date tend to prove that improved methods had been introduced or that filthy and objectionable ones had been abandoned. Indeed, your Commissioner himself, as already noted, has stated that variation in the bacteriological character of the samples of a brand did not imply that the brands varied correspondingly! I do not suggest for one moment that any want of care ever existed in the institution referred to, but I draw attention to the unscientific and illogical methods which characterise and vitiate the report of your Commissioner.

With reference to the manner in which the samples were obtained, I never knew until this morning that any samples of my vaccine had been secretly obtained by THE LANCET for examination. On the whole I think the secret method is objectionable as compared with an open candid request for samples for examination. Had I been asked I would gladly have supplied such samples and I could not have given one better than what I possessed. I do not believe any one of the persons whose vaccine was surreptitiously obtained with the apparent object of using it for vaccination, but with the real object of examining and publishing a report on it without leave asked or given, would have refused or would have sent a false sample. Thousands of articles, chemicals, drugs, &c., will be openly supplied, examined, and reported on by the various committees of the Paris Exhibition. I doubt whether better results would be got if such samples were secretly got hold of, after the manner of THE LANCET, and a surprise report like this on calf vaccine issued. Thousands of test experiments of the most crucial kind are made with my vaccine every week as to its possessing the essential property of cow-pox. THE LANCET makes two experiments with it in a year! and gives an opinion founded on them. Even though that opinion is of a very favourable character I think the experiments employed and the standard of quality adopted are so faulty that I have ventured on this criticism. These experiments are not intended and do not profess to give any information as to the efficiency of the vaccine. On that point medical men can judge for themselves and THE LANCET does not help them. The entirely false standard of merit adopted by THE LANCET, following the example of a busybody in Germany who is much derided there by those who understand the nature of his proceedings, is calculated to mislead and even to cause dangerous results by allowing worthless vaccine to be regarded as good—i.e., protective against small-pox.

The report of THE LANCET has dealt favourably with my own vaccine, but its praise is calculated to deceive as much as its blame. Indeed, the Special Commissioner himself has taken pains to show that samples which he reports unfavourably of are not to be taken as characteristic of the general supply from which it was derived and he does not profess to know whether even one single sample reported on by him or the whole lot combined could produce one typical Jennerien pock or protect against small-pox. I therefore venture to urge that your readers should decline to accept such a report as a guide in reference to the quality of various calf vaccines.

May I add one word as to the novel and unfair method, growing in frequency, of criticising substances by brief reports in letters to the press? A man gives a dose of some drug, or three or four doses, and on this experience writes to the papers to say that the drug was useless and that the vendor was more or less incompetent because the expected effects were not produced. I recently read in a medical paper a signed letter in which a medical man said he had obtained 360 successes out of 364 insertions with

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The following anecdote well illustrates the worthlessness of the whole procedure. It was related to me by the head of one of the oldest and best Government calf vaccine stations in Germany, a man of world-wide reputation for his scientific researches in certain branches of bacteriology and pathology. The unscientific gentleman who first raised this worthless and delusive standard for estimating the amount of protective virus in calf vaccine by the number of extraneous micro-organisms present, which have no protective power, asked my friend to submit a sample of his vaccine for examination and report. Feeling rather resentful of the impertinence he sent some perfectly inert material, many years old, which had been long rejected but not destroyed. Some weeks later to his amusement he received a most complimentary report on this worthless vaccine, stating that it was in every way satisfactory because it had answered to the absurd standard of perfection in the most perfect way and had not shown one single extraneous micro-organism. But as vaccine "this perfect vaccine" was absolutely useless—it contained no protective virus and was incapable of producing a pock when inoculated. And yet it was reported as being "perfect" according to this other standard, which does not judge according to protective power. What a terrible awakening there would have been had medical men been induced by this report to rely on the "perfectly sterile" material to check an epidemic of small-pox such as that at Gloucester or Middlesborough.

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That this warning against drawing any inference as to future samples of any brand of vaccine from your report on the samples examined by your Commissioner is called for must be abundantly clear from what precedes. But there are additional grounds for emphasising it. The small number of observations made with each brand renders the conclusions arrived at of no value, and no conclusion whatever worth drawing can be founded on the comparative merit of the various brands and samples owing to the fact that the same number of experiments was not made in each case and the character of the tests varied.

In the case of some brands five experiments were made, with others only two, while with the Local Government Board vaccine only one experiment was made. It is obviously unfair to draw positive conclusions from one sample of one brand when with other brands five times as many experiments were used. Even five observations are far too few. I can give you the evidence of gentlemen who have made thousands of successful experiments with my vaccine as a protective. Of what value are your two or three observations when compared with them? But a more serious objection lies in the fact that the number of days which the vaccine was kept was not the same with all samples. The solitary sample of the Local Government Board vaccine was kept only four days, while some of the other samples were kept for 10, 21, 33, 71, 125, &c., days. Scientific conclusions are not deducible from these varying data as to the comparative purity from extraneous organisms of the various brands (the report, as already stated, has nothing to say about the vaccinating and protective value of the various brands; they may be all perfect or all worthless in this the essential property of vaccine, so far as the report goes). As the glycerine has the property of destroying such extraneous organisms, obviously the longer a sample is kept the fewer colonies will appear in the cultures. But the *coup de grâce* is given to the report by your Commissioner himself on p. 1231. He is there dealing with a brand which gave an enormous number of colonies in one sample and in another succeeding sample gave none, and he proceeds: "*If such lymph retains its full activity* ..... the question of pure lymph is one that need no longer trouble the public." The italics are mine, but these remarkable words should be printed in capitals to attract due attention. Your Commissioner here for the first and only time seems to be alive to the fact that the real value of vaccine depends on whether it can vaccinate and not on whether a few extraneous organisms exist in it. "*If* it retains its full activity" when it contains but few extraneous organisms it is good vaccine; but even if it is absolutely devoid of all living organisms and yet cannot vaccinate it is useless vaccine. It is worse; it is a highly dangerous and delusive material the use of which might lead to the wide spread of an epidemic of small-pox and no matter whether your Commission reported favourably (as it necessarily would) or not such vaccine should be somehow suppressed. Vaccine reported by your Commission to be perfect from the bacteriological standard may be useless from the protective (the really valuable) standard, and *vice versâ*. Vaccine reported by you to be the worst in bacteriological quality may be the very best of the lot as a protective against small-pox so far as your report goes. A report of such a character is certainly not to be relied on. The presence of extraneous organisms might be a great source of danger if of a virulent kind. But your report says nothing as to the nature of the organisms present.

The standard taken by your Commissioner is, I submit, of no practical value and it is calculated to lead to entirely erroneous conclusions both as to the respective values and the relative values of the various brands and specimens. It would have been more satisfactory if some statement had been made as to tubes of vaccine received by your Commissioner but not reported on. In one case five tubes were received but only three are reported on. Why is there no statement as to the remaining two? If not used the fact and the reason for it ought to be mentioned. The manner in which unwarranted general conclusions are drawn from isolated and insufficient facts is frequently instanced in the report, but there is one which particularly calls for notice. A very bad tube of one brand is reported on and subsequently a very good one of the same brand was used. Thereupon your Commissioner gravely reports that this "affords evidence that greater care is now taken in the preparation and storage of this lymph." But there is no such evidence in the fact stated and no such conclusion is justifiable. There is not a particle of evidence to show that the very bad tube referred to was characteristic of the general supply of the institution it came from or that it was not merely one exceptionally and accidentally rich in extraneous organisms, nor does the finding of a single tube without any such organisms at a later date tend to prove that improved methods had been introduced or that filthy and objectionable ones had been abandoned. Indeed, your Commissioner himself, as already noted, has stated that variation in the bacteriological character of the samples of a brand did not imply that the brands varied correspondingly! I do not suggest for one moment that any want of care ever existed in the institution referred to, but I draw attention to the unscientific and illogical methods which characterise and vitiate the report of your Commissioner.

With reference to the manner in which the samples were obtained, I never knew until this morning that any samples of my vaccine had been secretly obtained by THE LANCET for examination. On the whole I think the secret method is objectionable as compared with an open candid request for samples for examination. Had I been asked I would gladly have supplied such samples and I could not have given one better than what I possessed. I do not believe any one of the persons whose vaccine was surreptitiously obtained with the apparent object of using it for vaccination, but with the real object of examining and publishing a report on it without leave asked or given, would have refused or would have sent a false sample. Thousands of articles, chemicals, drugs, &c., will be openly supplied, examined, and reported on by the various committees of the Paris Exhibition. I doubt whether better results would be got if such samples were secretly got hold of, after the manner of THE LANCET, and a surprise report like this on calf vaccine issued. Thousands of test experiments of the most crucial kind are made with my vaccine every week as to its possessing the essential property of cow-pox. THE LANCET makes two experiments with it in a year! and gives an opinion founded on them. Even though that opinion is of a very favourable character I think the experiments employed and the standard of quality adopted are so faulty that I have ventured on this criticism. These experiments are not intended and do not profess to give any information as to the efficiency of the vaccine. On that point medical men can judge for themselves and THE LANCET does not help them. The entirely false standard of merit adopted by THE LANCET, following the example of a busybody in Germany who is much derided there by those who understand the nature of his proceedings, is calculated to mislead and even to cause dangerous results by allowing worthless vaccine to be regarded as good—i.e., protective against small-pox.

The report of THE LANCET has dealt favourably with my own vaccine, but its praise is calculated to deceive as much as its blame. Indeed, the Special Commissioner himself has taken pains to show that samples which he reports unfavourably of are not to be taken as characteristic of the general supply from which it was derived and he does not profess to know whether even one single sample reported on by him or the whole lot combined could produce one typical Jennerian pock or protect against small-pox. I therefore venture to urge that your readers should decline to accept such a report as a guide in reference to the quality of various calf vaccines.

May I add one word as to the novel and unfair method, growing in frequency, of criticising substances by brief reports in letters to the press? A man gives a dose of some drug, or three or four doses, and on this experience writes to the papers to say that the drug was useless and that the vendor was more or less incompetent because the expected effects were not produced. I recently read in a medical paper a signed letter in which a medical man said he had obtained 360 successes out of 364 insertions with

vaccine supplied by one firm (named), while with one tube (!) supplied by another firm (named) he had not had a single success or, as he put it, "every case failed"! Of course, had he used 364 tubes of the latter vaccine instead of only one, all might have succeeded except one; and had he only used one tube of the former kind it might have proved to be one of the inert ones which were found among the 364. Such comparison between the two vaccines is absurd and one experiment is not sufficient to found a theory on, or even two or five, as THE LANCET Commissioner has allowed himself to do. If one tube is insufficient for the formation of a general conclusion, just as one dose of a drug is, it is equally insufficient as a foundation for a published attack on a purveyor of vaccine or of medicine. The proceeding is not only devoid of any scientific value but is eminently unfair and should be discouraged unless the columns of the medical papers are equally open to those who are willing to record their successful use of the articles which have been reported as useless by others. I have no personal reason for referring to this last subject, but in defence of scientific method and to prevent unfairness and the misleading of people by entirely insufficient evidence I wish to draw attention to it.

I am, Sirs, your obedient servant,
THOS. WHITESIDE HIME, B.A., M.D.

Bradford, April 28th, 1900.

*** We print Dr. Hime's letter in order that those who are interested in this question may see the point of view from which some of those who are engaged in the preparation of lymph look upon any attempt to insist upon the precautions recommended by the Local Government Board in the collection and preparation of lymph. We distinctly stated in our report that this was a special investigation to determine how far these recommendations were being carried out and with what results. Dr. Hime, with exceedingly artless ingenuity, has occupied himself principally in doing what is known as drawing a red herring across the trail, and secondly, in putting up bogies in order that he may have the opportunity of knocking them down. Most of our readers will probably agree with us that Dr. Hime's criticism is deprived of much of its force from the fact that his interest in this question is scarcely the same as ours, in so far, at any rate, as agreement or disagreement as to the necessity for enforcing the requirements of the Local Government Board is concerned. It is now recognised that good and active vaccine lymph free from "extraneous" micro-organisms can be prepared, and we are entitled to ask those who are at present engaged in the preparation of lymph either to give us this vaccine or to leave the preparation to those who can and will. Dr. Hime entirely misses—or ignores—the point of our argument in connexion with the presence of a large number of organisms in isolated samples. We scarcely think it necessary to insist upon this again, but we may refer our readers to the original article. Everyone who uses vaccine is in a position to judge for himself whether it is active or not. He cannot do many "vaccinations" without finding this out, but unless he makes a special examination he is not in a position to determine how far the lymph is contaminated by extraneous organisms. It was for this reason that we took up this matter and for this reason we shall continue to examine the lymph for this special form of purity. If vesicles are produced by lymph containing no extraneous organisms we may rest assured that the vaccine is active and will do the work required of it. We quite agree with Dr. Hime that further examinations are necessary, but we have sufficient evidence before us to warrant us in making public the fact that there are at present very great differences in the bacteriological purity of lymph.—ED. L.

To the Editors of THE LANCET.

SIRS,—The report of THE LANCET Special Commission on Vaccine Lymph will, it is to be hoped, ensure that all lymph sold to the public shall bear on the label the date of its manufacture. This is a point of the greatest importance, for provided that the glycerine admixture has been made for a sufficiently long period of time the elimination of extraneous organisms is assured. This is well illustrated by some experiments which I made two years ago, an account of which was published in the *British Medical Journal* of Sept. 3rd, 1898. The four samples of lymph, tested directly from the hands of the retailer, showed a wide variation with regard to the number of colonies on gelatin plates, but when kept for periods varying from 74 to 169 days the differences had practically disappeared, no specimen giving rise to more than three colonies per plate, and only a single colony of staphylococcus being found in the whole series. Glycerinated lymph which had been kept for 200 days gave rise to perfectly normal vesicles and had in no way lost its power. In the article referred to the names of the retailers were not furnished, but my results coincide very closely with those of your Commissioners. Two methods of ensuring the purity of vaccine-lymph are open to the medical practitioner, viz.: storage of lymph tubes for one month from the date of purchase, and systematic bacteriological examination of samples as is done in suspected cases of tuberculosis or diphtheria.

I am, Sirs, yours faithfully,
Clifton, May 2nd, 1900. J. ODERY SYMES.

WHAT IS AN EXPLOSIVE BULLET?

To the Editors of THE LANCET.

SIRS,—Sir William MacCormac stated in an interview with a *Standard* correspondent that "he had no personal knowledge of the use of explosive bullets by the Boers." Is there any such thing as an explosive bullet? I think not. One of my cases had a large wound over the left scapula presenting much the appearance of having been riddled by an ordinary fowling-piece. The man informed me that a small piece of shell had been removed from one of the wounds a few weeks later. I removed (in March) a small portion of what I considered to be the nickel coating of a *soft-nosed* bullet, but I am not a military expert, though during an active practice of many years at a "diggings" I have seen a considerable number of bullet wounds.—I am, Sirs, yours faithfully,

DAVID HARRIS,
Late Surgeon Transport *Umbria*.

Birchington-road, West Hampstead, May 2nd, 1900.

A FORGOTTEN SUGGESTION.

To the Editors of THE LANCET.

SIRS,—The announcement of the interesting experiment to be made by Dr. Sambon and Dr. Low in the Campagna stimulates me to recall attention to another enterprise in connexion with malaria suggested by me a year ago but, I regret to say, not even yet attempted. I refer to the subject of making direct experiments regarding the possibility of controlling malaria by the destruction of anopheles. It is, of course, very desirable to make as many theoretical investigations as possible on the mosquito theory, but we must not forget that while we are considering academical details valuable lives are constantly being lost and that we are already in possession of facts solid enough to form a basis for practical action. The mosquito theory scarcely stands in much need of further proof; it was established long ago. We already know that malarial fever is communicated by gnats. The next work of importance is to ascertain by systematic and thorough experiment whether gnats can or cannot be exterminated or reduced within a given selected area and what effect this measure will have on the public health. The experiment must be made sooner or later. Quinine, mosquito-nets, mosquito-proof houses are well enough in their way, but they will never be used by the bulk of those who live in malarious places. The question whether there is not also some other mode of infection is certainly one of importance, but it will find its own answer in the course of time and we have no justification for postponing action against the known cause of the disease because we are not yet quite sure that there is no other cause.

The duty of carrying out the experiments to which I refer is distinctly one which belongs to the Governments of our malarious dependencies. Private individuals possess neither the authority, the means, nor the leisure to undertake the

work, and if they do so they receive little encouragement to proceed. We may perhaps be allowed to express some disappointment that the practical bearings of the mosquito theory have received so little attention in this country. I trust that the many men of influence who have already taken an interest in the theory will help to urge the advisability of shortly undertaking the obvious and necessary experiments to which I refer.

I am, Sirs, yours faithfully,
RONALD ROSS, D.P.H., M.R.C.S. Eng.

Liverpool, May 8th, 1900.

"UNION HOSPITAL, MIDDLESBROUGH."

To the Editors of THE LANCET.

SIRS,—Adverting to a letter from Dr. L. G. Davies, workhouse medical officer and medical officer of the children's homes of this union, which appeared in THE LANCET of April 28th I am instructed by the guardians of this union to enclose copy of a letter which they directed me to write Dr. Davies and to request you to be kind enough to insert in your next issue. I am, Sirs, yours faithfully,

Poor-law Offices, Municipal-buildings, Middlesbrough, May 7th, 1900. J. J. DALES, Clerk.

[COPY.]

3rd May, 1900.

SIR,—I am instructed by the guardians of this union to state that their attention has been drawn to a letter which you have written to the Editors of THE LANCET and *British Medical Journal* containing several most misleading statements with reference to the position of workhouse medical officer and medical officer of the children's homes of this union and to inform you that if any attempts are made by you to prejudice the guardians of this union in the minds of any intending applicant the guardians will take such proceedings against you as they may be advised. Yours obediently,

Dr. Davies, The Workhouse, Linthorpe. J. J. DALES, Clerk.

*** It is to be regretted that the guardians have not thought it worth their while to indicate where, in their opinion, Dr. L. G. Davies's letter was misleading.—ED. L.

HOSPITAL REFORM.

To the Editors of THE LANCET.

SIRS,—Will you kindly let me mention that I have some spare copies of the report of the conference on hospitals and dispensaries held last year.

I am, Sirs, yours faithfully,
Cardiff, May 5th, 1900. T. GARRETT HORDER.

GERMAN SURGICAL CONGRESS.

(FROM OUR BERLIN CORRESPONDENT.)

THE Twenty-ninth Congress of the German Surgical Association was opened on April 18th in Langenbeck House at Berlin, Professor VON BERGMANN being in the chair. In his inaugural address the chairman reviewed the history of German surgery in the past century and described the influence of the Surgical Association on its development. He said that the great progress which had been made in surgery must be attributed to the practical application of the results obtained in experimental research and particularly to the knowledge gained by experiments on animals. He then made a feeling allusion to the recently deceased members of the association, especially the late Sir James Paget, an honorary member of the association, whose oil painting in the Assembly Hall had been draped in mourning.

Inoperable Carcinoma.

Professor VON CZERNY (Heidelberg) read the first paper, the subject of which was the Treatment of Inoperable Cases of Carcinoma. He drew attention to the fact that about 40,000 persons died every year in Germany from carcinoma. The number of patients with carcinoma was increasing, whilst other diseases, such as tuberculosis, were decreasing. Unfortunately, a good many of these patients fell into the hands of quacks after the medical profession had exhausted all orthodox methods without success. About 45 per cent. of cancer cases were unsuitable for operation and it must therefore be the aim of the surgeon to relieve the sufferings of the patients. The surgeon must never let his patient see that he has doubts as to a successful issue. There were methods by which the progress of the disease might be hindered—at least for a short time. Professor von Czerny recommended curetting and cauterisation with chloride of zinc; the employment of formalin and of arsenic might also be useful. The condition of these unfortunate sufferers would be alleviated by such an organisation as had been proposed by the new Society for the Study of Cancer. Great advantages would result from the creation of cancer hospitals after the pattern of those already existing in England and America and maintained by the liberality of rich benefactors. Professor von Czerny urged the members of the association to use their influence in favour of such hospitals as much as possible. In these hospitals medical students and practitioners would learn the treatment of inoperable cases and the spread of the disease might be hindered by isolating the patients.

Dr. FRIEDRICH (Leipsic) pointed out the difficulty there was sometimes found in distinguishing cancer from syphilitic growths.

Professor HELFERICH (Greifswald) related some undesirable experiences which followed cauterisation with chloride of zinc.

Operations for Cancer of the Rectum.

Professor KRONLEIN (Zürich) then read a paper on Operations for Cancer of the Rectum. He had collected statistics from eleven surgical clinics of Germany, Austria, and Switzerland, and had found a relatively great mortality after the operation due especially to the fact that the cases operated upon were often in an advanced stage. Sepsis was relatively frequent after operations for rectal cancer. With respect to the curability of the disease Professor Krönlein said that cases which remained free from relapse for more than three years after the operation might be regarded as cured. This good result was obtained in about 15 per cent. of the cases.

Professor KOERTE (Berlin) said that the results might have been better if the patients had been operated on at an earlier date. He had been able to remove the growth completely in 19 out of 51 cases. He showed patients who had been operated on four, and eight and a half, years ago.

Plastic Operations.

Dr. VON MANGOLD (Dresden) showed a woman who had stricture of the trachea after perichondritis and had worn a cannula for 18 years. He took a piece of cartilage from a rib and implanted it under the skin in the neighbourhood of the trachea. He then incised the stricture of the trachea and inserted the cartilage into the opening. A saddle-shaped nose was corrected in a similar way. Dr. von Mangold had used cartilages of the ribs in five cases for plastic operations and recommended this structure as very suitable for the purpose.

Professor VON EISELBERG (Königsberg) showed a patient who had lost his forefinger by an accident. He replaced the missing finger by disarticulating the second toe and uniting its skin and tendons with those of the stump of the finger by a series of sutures. Primary union followed and in the result the substitute for the finger possessed a considerable capacity for movement.

Surgery of the Joints.

Professor KONIG (Berlin) said that strict asepsis was especially necessary in Operations on the Joints. It had been proved by many researches that endeavours to render the fingers free from germs usually failed. The fingers therefore ought never to be introduced into the cavity of a joint. Skiagraphy of the joints had not given very certain results. Professor König mentioned cases where the results of ossification of the tendons outside the joint had been erroneously attributed to foreign bodies in the joints. In suppurative arthritis he disapproved of the drainage of the joint but recommended free opening of the cavity. By making a transverse incision through the knee-joint he had sometimes succeeded in avoiding the necessity for amputation. In conclusion he warned his hearers against the use of apparatus in cases where a complete cure might be obtained by operation.

Operations for Renal Calculus.

Professor ISRAEL (Berlin), speaking on this subject, remarked that operations for renal calculus were mentioned by Hippocrates. Nowadays these operations were performed everywhere by almost every surgeon and their danger was scarcely greater than that of lithotrity. Expectant treatment was often more dangerous for the patient than an operation. Unmistakeable indications for operation were given by anuria produced by impaction of a calculus, by

acute pyelonephritis, by retention of urine in the kidney, and by profuse hæmorrhages. An early operation was indicated also by renal colic without discharge of calculi, by the occurrence of severe pain, and by gastric troubles produced by the presence of calculi. Although there might be no imminent danger in these cases it was very likely that within a short time the symptoms would become so grave that an operation would be necessary under worse conditions. An operation might be avoided if calculi were discharged in the urine. In these cases suitable diet and balneological treatment were preferable. With respect to the technique of the operation Professor Israel preferred incision of the renal tissue in the median line to opening the pelvis of the kidney. If the renal tissue was extensively damaged by suppuration nephrectomy must be performed.

Dr. KUMMELL (Hamburg) described the methods of ascertaining the state of the second kidney, mentioning catheterisation of the ureters, which could be performed without danger, and determination of the daily amount of urea in the urine. A very useful method for this purpose had been devised by Professor Korányi of Budapest who had found that the freezing point of the blood became lower in cases of impaired function of a kidney.

Operations for Gall-stones.

Professor KEHR (Halberstadt) said that he had performed operations of this kind in 491 cases during the past 10 years, the mortality being from 2 to 7 per cent. It might have been expected that the colicky pains would cease at once after the operation, but unfortunately some patients continued to complain. According to Professor Kehr these troubles were due to calculi left in the gall-bladder because they were not found during the operation and were never caused by the formation of fresh calculi. Genuine relapses have never been observed and Professor Kehr had therefore given the name of "spurious relapses" to the pains originating in the manner above described. Such spurious relapses may be produced, moreover, by adhesions between the gall-bladder and its surroundings. In order that calculi may not be left behind Professor Kehr recommended total extirpation of the gall-bladder, as in this way better results were obtained than by incision and drainage. As a rule an operation ought to be performed as soon as the presence of a stone was ascertained, but this could seldom be done as the patients declined to be operated on until their symptoms had become distressing. By early operation perforation of the gall-bladder, peritonitis, cholangitis, and carcinomatous degeneration were avoided.

Professor LOBKER (Bochum) approved of total extirpation of the gall-bladder. In his opinion cancer of it was caused by irritation by calculi.

Professor PETERSEN (Heidelberg) said that he had met with relapses only twice in 270 cases. He preferred drainage of the gall-bladder to total extirpation.

Professor KOERTE (Berlin) was of opinion that an operation should be performed only when the pain was very severe and frequent. The operation itself might produce adhesions which were usually very painful.

Myoma of the Uterus.

Professor OLSHAUSEN (Berlin) said that operation was not necessary in every case where a uterine myoma had been detected. Small myomata in young persons ought only to be operated on when they caused trouble, as it often happened that they did not increase in size for many years. He had operated in only about 16 per cent. of his cases. He recommended enucleation. Removal of the ovaries should be avoided as much as possible owing to the undesirable sequelæ of that operation.

(To be continued.)

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Riots at Cawnpore.—Emigration from India.—The Progress of the Plague.—Famine Relief Works.

THE plague riots at Cawnpore have been more than usually serious. It appears that segregation of the sick in hospital was adopted amongst other measures as part of the plague policy. To this, perhaps, there might not have been any serious objection, but it is reported that the police subordinates, threatening to remove to the plague hospital the wife of a wealthy native suffering from fever, demanded as blackmail Rs 100 each. This appears to have been too large a demand and the native in question resisted. The people were appealed to to suspend business and to close their shops. Crowds gathered and made for the hospital and segregation camp, while the medical officer was threatened and only managed to save himself by flight. Mussulmans and Hindus joined together in setting fire to the segregation camp. The police and troops were called out and the disturbance was so violent that the mob had to be fired on. All sorts of false rumours were set afloat by the agitators. As a result of all this the plague rules have been modified. The isolation of plague patients will be allowed in their own residences. Everyone knows, however, that this is a farce. There will be private hospitals and private caste hospitals arranged for. The same rules apply to the segregation of persons attending the sick, and no separation of families is to be allowed against their will. This is practically abandoning all active measures, and disinfection alone remains. The policy adopted in Calcutta anticipated this nearly two years ago. The Lieutenant-Governor has conferred with the municipality and has stated that the police were to have nothing to do with the decision of suspected cases, that the people were in no way to be obliged to submit to European treatment, and that in addition to the before-mentioned modified rules the duties of the Health Department were to be confined to sanitary regulations. There will now be an opportunity of watching the natural course of an outbreak of plague in Cawnpore.

The annual average number of emigrants from India is about 14,667, making 176,001 during the past 12 years. The number of persons who returned amounted in the same period to 73,375, an average of 6281 yearly, or less than one-half of the number who left India. The mortality amongst emigrants is high. Many continue to work in the particular colony to which they went after their term of indenture has expired. In Mauritius, for instance, it is estimated that 69 per cent. of the population (256,000 out of a population of 372,000) are Indian settlers and their descendants. In Natal, Trinidad, and elsewhere the settled Indians are increasing in numbers. There is very little emigration from Bombay, as labour is, on the whole, so well paid that there is little inducement to go to the coolie-employing colonies. The work of the Uganda railway has drawn considerable numbers (9479) from Karachi. Most of the emigrants go from Calcutta and are drawn from the impoverished districts of Oudh, Behar, and the N.W. Provinces. About 3000 were recruited from the Tamil districts of the Madras Presidency last year, and a few people went to the Seychelles. The various emigrants become widely dispersed, some going to Natal, others to Jamaica, to Trinidad, and to British and Dutch Guiana. These figures are quite independent of those persons who leave India as ordinary passengers and not under emigration laws, and are in addition to the various pilgrimages.

The weekly returns of plague have somewhat improved. There were 4109 deaths returned last week for the whole of India, as against 4546 during the previous week. There has been a great improvement in Bengal, the deaths in Calcutta having fallen from 702 to 465, and in the districts from 2142 to 1390. There has been an improvement also in Bombay city, but in the rest of the Presidency there has been an increase from 566 deaths to 1097, chiefly owing to the increased mortality at Karachi and in Cutch. Aden records 73 deaths. On the Turco-Persian frontier plague seems to be developing, and 195 deaths have been recorded at Javanrood during the last three weeks. The death-rate in Calcutta has declined from 93·7 per 1000 to 72·7, while in Bombay, though less than last week, it is now 135 per 1000 per annum. Plague still continues to affect in a mild manner various villages in the Punjaub.

Relief works in connexion with the famine are being extensively organised. In the Bombay Presidency there were the following works started last week: deepening the Sud Tank, collecting ballast for the Great Indian Peninsular Railway, metal collection for several roads, and the opening of new roads. Works are to be specially undertaken for the relief of the hill tribes in Thana and the sinking of trial-shafts for irrigation wells at Nasik.

April 19th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Inauguration of an Old Students' Association at University College, Liverpool.

WITH the laudable object of promoting good fellowship among former students of University College and bringing them together into friendly intercourse an "Old Students' Association" has been recently formed in connexion with University College. Upwards of 100 past students have already joined the association and as there are about 2000 old students scattered over different parts of the kingdom, many of whom have written in enthusiastic support of the scheme, it is anticipated that the membership will shortly assume goodly proportions. The association will also have for its aim the promotion of the interests of the College in every possible manner. Dr. John Hill Abram, assistant physician to the Royal Infirmary, has been elected the first president; Mr. W. Thelwall Thomas, assistant surgeon to the Royal Infirmary, has been appointed treasurer; and Miss E. M. Platt will act as the first secretary.

University College, Liverpool; The Medical Faculty; Opening of the Summer Session.

Lectures and practical classes in the schools of medicine, dental surgery, and public health commenced on May 1st. The several entries to date appear to be satisfactory.

The Pathological Diagnosis Society of Liverpool: Report for 1899.

During the year 1899 the Pathological Diagnosis Society have transmitted to members of the society 800 reports on material sent by them for examination. In the Thompson-Yates Laboratories a special room and laboratory assistant are devoted to the work, so that in all urgent cases, as in the bacteriological diagnosis of diphtheria and the typhoid bacillus, a reply is given within 24 hours. The society is doing a most useful work, and the attention of members is directed to some practical points in the method of selecting and sending material for examination, examples of which are given in the report for 1899 under the respective headings. The following hospitals are at present connected with the society: the Royal Infirmary, the Infirmary for Children, the Royal Albert Edward Infirmary, Wigan, the Birkenhead and Wirral Children's Hospital, the Southport Infirmary, and the County Asylum, Chester. The director of the society is Dr. W. B. Warrington, to whom all communications should be addressed at the Thompson-Yates Laboratories.

Charges of Neglect against the Liverpool Workhouse Authorities in the Matter of a Certified Lunatic.

A case involving some interest in a medical point of view was investigated by the county coroner on April 25th. A middle-aged woman, a saleswoman in the employ of a large haberdashery establishment in the city, was brought to the Liverpool Workhouse on the morning of April 15th suffering from acute mania, as certified by her medical attendant. She was subsequently removed to Rainhill Asylum, where she died on April 23rd. The authorities at the asylum reported to the coroner that the woman had been neglected at the workhouse, that she was not in a fit state to have been removed to the asylum, and that her head was filled with vermin. Dr. A. W. Campbell, the pathologist of the asylum, deposed that he had made a post-mortem examination of the body and that the deceased died from broncho-pneumonia. The body was also covered with bruises when admitted to the asylum. The workhouse officials denied that there could have been any filth in the room in which the deceased was confined as it had been previously stoved owing to the occurrence of a case of small-pox in the section. The bruises could be accounted for from the fact that the deceased was rescued with great difficulty, after the lapse of an hour, from a ledge outside the window of the establishment from which she was brought to the workhouse. They would appear to have been unavoidable and to have been caused by the efforts made to rescue her from a perilous position. Dr. William Alexander deposed that the deceased died from acute mania and that the broncho-pneumonia was but a complication of the disease. The jury found that the deceased died from broncho-pneumonia, and were of opinion that there had been neglect on the part of the workhouse authorities. An exhaustive inquiry was subsequently held by the Select Vestry into the conduct of their officers in the matter with the result "that the charges of neglect made against the officers of the workhouse had not been proved." Mr. Foote, one of the members of the committee of inquiry, made the remark that "their friend the coroner was only too ready to get a shy at Brownlow-hill." In the course of investigation by the committee of the Select Vestry Dr. Alexander said that he regretted that he was not notified by the asylum authorities of their intention of making a post-mortem examination, to which he considered he was in courtesy entitled. It is only fair to say that Dr. J. Wiglesworth, the respected medical superintendent of the Rainhill Asylum, was absent from home at the time of the whole proceedings. Hitherto the relations between the asylum authorities and the officials of the Liverpool Workhouse had been of a cordial character and it is unfortunate that those friendly relations should have been marred by the present unfortunate occurrence.

The Threatened Epidemic of Small-pox in Liverpool.

At the last weekly meeting of the Health Committee of the City Council, the medical officer of health (Dr. E. W. Hope) reported that there were 53 cases of small-pox, 173 cases of scarlet fever, 2 cases of typhus fever, 45 of typhoid fever, 33 of diphtheria, and 24 cases of other zymotics, making a total of 330 cases of infectious diseases in the city corporate hospitals for the week ending April 28th. There had been four deaths from small-pox during the week. No fresh cases of small-pox had occurred at the Liverpool Workhouse, where every precaution has been taken for isolating suspected cases. Revaccinations have been performed by the medical officers on a large scale and it is hoped that, so far as the workhouse is concerned, the disease has been successfully grappled with.

May 8th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Physicians of Edinburgh.

A QUARTERLY meeting of the Royal College of Physicians of Edinburgh was held on May 1st, Dr. James Andrew, the President, being in the chair.—The President referred in feeling terms to the great loss which the College had sustained through the death of Sir Douglas Maclagan who had been a Fellow of the College for 36 years and President from 1884 to 1887. The President further referred to the loss which the College and the profession had sustained through the death of Sir William Priestley, for 42 years a Fellow of the College.—Dr. Charles Henry Fox, M.R.C.P. Edin. (Edinburgh), was admitted by ballot to the Fellowship of the College.—On a ballot the following candidates were admitted to the Membership of the College after examination—viz., Charles Cromhall Easterbrook, M.B., C.M. Edin. (Edinburgh), John Cumming, L.R.C.P., F.R.C.S. Edin. (Edinburgh), and Alexander Dingwall Fordyce, M.B., Ch.B. Edin. (Edinburgh).—The Registrar reported that since the last quarterly meeting 45 persons had obtained the Licence of the College by examination.—Dr. Claude Buchanan Ker, M.R.C.P. Edin. (Edinburgh), was, after examination, recognised as a lecturer on Infectious Diseases, and the President conferred on him the certificate of qualification.—The President announced that the Royal College of Surgeons of Edinburgh had intimated its intention to contribute £200 per annum towards the maintenance of the College Laboratory, and moved that the cordial thanks of the College be given to the sister College for the very handsome contribution.—Intimation was made that the medical officer of health for the city of Edinburgh was prepared, in the City Hospital, to conduct examinations with a view to the bacteriological diagnosis of diphtheria and typhoid fever for the profession, as the College, through its laboratory, had done in the past. It was accordingly resolved that the College should cease reporting regarding diphtheria and typhoid fever from May 15th excepting for Fellows of the College and of the Royal College of Surgeons of Edinburgh.—Draft Regulations for the Triple Qualification Examinations for the following year were approved.—It was intimated that Dr. John Wyllie had been re-elected one of the representatives of the College on the Conjoint Committee of Management of the triple qualification for a period of three years.

Prevention of Tuberculosis.

On the invitation of the Corporation of Glasgow a conference of local authorities in Scotland was held in Glasgow on April 24th to consider the question of the prevention of tuberculosis in its relation to meat- and milk-supply. Lord Provost Chisholm presided. Bailie King, convener of the Bacteriological Committee of the corporation, read a paper on the proposals under the consideration of the committee, and Councillor James Dick, chairman of the Health Committee, read a paper containing proposals regarding the inspection of meat.—Dr. Leslie Mackenzie, medical officer of health of Leith, read a paper on the Regulation of Meat- and Milk-supply in support of the formal motions which were to be proposed.—Councillor Erskine moved one of the propositions on the agenda to the effect that in the opinion of the conference it was essential in the interests of the milk-consumer that full advantage be taken of the powers contained in the Dairies, Cowsheds, and Milkshops Order of 1899, and that in order to obtain such each authority should provide for the regular inspection of its dairy cattle by the appointment of a veterinary surgeon for the purpose. The motion also proposed that in order to secure uniformity in the exclusion from the meat-supply of the flesh of tuberculous animals advantage should be taken by each local authority of the powers of the Public Health (Scotland) Act for the provision of definite places for the inspection of animals slaughtered for food purposes within its boundary, and that meantime the standard of condemnation to be applied should be that described in the report of the Royal Commission on the subject. This motion was carried as well as an addition to it—viz., that it was essential in the interests of the consumer that he should be protected against the dangers arising from imported meat and milk. Mr. John Speir, Newton Farm, near Glasgow, read a paper on the Best Means of Housing Cows in Country and Urban Districts. A motion was then carried laying down certain conditions to be observed in the construction of byres, with an addition to the effect that local authorities should have power to refuse the registration of a dairy-keeper until satisfied that his premises were in a satisfactory state and that the water-supply was sufficient and free from contamination. A paper entitled the Necessity for the Tuberculin Test, by Principal Dewar, Royal Dick Veterinary College, Edinburgh, was on the programme, but owing to the lateness of the hour Principal Dewar contented himself with making a few observations on the motion about to be submitted. Bailie R. Anderson moved the proposition which asked that local authorities should be empowered by Parliament to apply in all dairies the tuberculin test in order to discover whether the cows suffered from tuberculosis. The motion met with considerable opposition, but was ultimately passed.—Professor Stockman spoke on the Establishment of Public Abattoirs, and the conference afterwards rose.

Proposed Memorial to the late Dr. Jackson.

It is proposed to place in Free South Church, Aberdeen, a handsome stained glass window as a memorial to the late Dr. Henry Jackson, Aberdeen. The subscriptions will probably be confined to members of the church referred to.

New Maternity Hospital, Aberdeen.

The accommodation in the present maternity hospital in Barnett's Close, in connexion with Aberdeen Dispensary, having been found to be "utterly inadequate," the managers have resolved to purchase the property known as St. Ninian's Chapel in Castle-street and to convert the premises into a new and improved maternity hospital. St. Ninian's "Chapel on the Castle Hill" is a pre-Reformation building with an interesting history.

Hospital Saturday in Aberdeen.

In addition to band competitions, &c., in Duthie Park on June 23rd, the executive committee of the Aberdeen Hospital Saturday Fund have resolved to have horse races elsewhere some time in August. The resolution as to horse races, which was arrived at by a narrow majority, has given rise to considerable controversy in the city.

Chair of Medicine in Edinburgh University.

At a meeting of the curators of patronage for the chair of medicine in the University of Edinburgh, held on May 4th in the University Court-room, Dr. John Wyllie was elected to the chair. All the curators were present. Dr. Wyllie, who is 56 years of age, was a student of Edinburgh University. In 1865 he graduated with honours as a Doctor of Medicine and was awarded a gold medal for his thesis on the Physiology of the Larynx. Subsequently to his graduation Dr. Wyllie held the posts of house surgeon and house physician in the Edinburgh Royal Infirmary, and in the winter of 1865 he was elected senior president for the year of the Edinburgh Royal Medical Society. In the summer of 1866 he studied in Paris. After returning to England he held the post of house physician to the General Hospital, Birmingham, for two years. In 1868 Dr. Wyllie settled in Edinburgh and in 1870 was elected a Fellow of the Royal College of Physicians of Edinburgh. He then became a lecturer on pathology in the Extra-Academical School and lecturer on that subject until 1878, when he became a lecturer on practice of physic. He was for two years pathologist to the Edinburgh Royal Infirmary and for six years acted as one of the physicians to the new town dispensary. In 1876 he became assistant physician to the Royal Infirmary, which post he held until 1882, when he was appointed physician to that institution. In October, 1896, Dr. Wyllie was appointed consulting physician to the City Hospital for Fevers. In April, 1897, his term of office as physician to the Royal Infirmary expired and he was appointed one of its consulting physicians. Dr. Wyllie acted as honorary secretary to the Royal College of Physicians of Edinburgh from 1878 to 1888. From 1892 to 1896 he held the post of examiner for the University in clinical medicine. He has also held the appointment of examiner in medicine for the University degree in public health and since 1887 he has acted as principal medical officer to the Scottish Equitable Insurance Company. In 1897 the University of Edinburgh conferred on Dr. Wyllie the degree of Doctor of Laws. Dr. Wyllie's experience of teaching has been large, both in the teaching of medicine systematically and in the teaching of clinical medicine. Between 1878 and 1897 Dr. Wyllie delivered every winter a course of lectures on Practice of Physic in the extra-mural school, those lectures being recognised by the university as qualifying for graduation, and during the latter half of that period, in addition to this winter course, he gave a supplementary summer course upon the subjects of Medical Ophthalmology, Laryngology, and Medical Electricity. During the 15 years in which he held office as physician to the Royal Infirmary he was continuously engaged in the teaching of clinical medicine. As consulting physician to the City Hospital it was his duty to give clinical instruction in fevers to the students of the University and of the extra-mural school. In the winter session of 1898-99 Dr. Wyllie taught clinical medicine for the University in the room of Professor Fraser, who was at that time in India, and at the same time had charge of Professor Fraser's wards. On the illness of Sir Thomas Grainger Stewart Dr. Wyllie was appointed to discharge the duties of the chair. Dr. Wyllie's chief published work is his book, "The Disorders of Speech," which appeared in 1894.

The Representation of Edinburgh and St. Andrews Universities.

On May 3rd Sir John Batty Tuke, M.D., was returned as the Parliamentary representative of the universities of Edinburgh and St. Andrews in room of the late Sir William Priestley. The gathering of electors, which was not large, was presided over by Sir William Muir in his capacity of returning officer. The nomination was made by Professor Annandale and seconded by Professor Scott Lang. Sir John Batty Tuke, in thanking his constituents for his election, referred to the one condition on which he consented to stand as a candidate—viz., that he should have a perfectly free hand in all matters connected with medical, public health, or educational affairs. He took his seat in the House of Commons on May 8th. He was introduced by Sir Michael Foster and Mr. J. A. Campbell.

May 8th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Epidemic Cerebro-Spinal Meningitis in Dublin.

A CONSIDERABLE number of cases of cerebro-spinal meningitis have recently occurred in Dublin, six deaths having been notified during the week ending April 28th. The

disease, accompanied by the characteristic petechial eruption, proved fatal to one of the most promising students of the Mater Misericordiæ Hospital after an illness of only four days. It is proposed to devote the meeting of the medical section of the Royal Academy of Medicine on May 18th to a discussion of the clinical, pathological, and other aspects of the affection. The attention of the Council of the Dublin Sanitary Association, which met on May 3rd, was directed to the wide prevalence of cerebro-spinal meningitis in Dublin and its suburbs.

The Meath Hospital and County Dublin Infirmary.

Mr. William Taylor, assistant surgeon to the Meath Hospital, has been appointed to fill the vacancy on the surgical staff created by the death of Dr. R. Glasgow Patteson.

The Infectious Diseases Hospital, Belfast.

The never-ending question of the site of the Belfast Infectious Diseases Hospital came before the city corporation of Belfast at their monthly meeting on May 1st. It would appear that the deputation from the Asylum Board appeared before the Public Health Committee to protest against taking any part of the estate at Purdysburn for the hospital, but that after a discussion it was decided by five to three to recommend that the infectious diseases hospital be built at Purdysburn, but that only 20 acres be taken for the present. The whole matter was debated at the monthly meeting of the corporation on May 1st, the discussion at times being very personal. Ultimately it was decided by 32 to 10 to adopt the report of the Public Health Committee to locate the infectious diseases hospital at Purdysburn.

Health of Belfast.

Between March 26th and April 21st 277 cases of zymotic disease have been notified, 94 of these being typhoid fever, 50 diphtheria, and 47 scarlet fever. There were 42 deaths from zymotic disease, 109 from phthisis, and 153 from diseases of the respiratory organs. The death-rate was 22·8, which is much less than that in the corresponding month of last year. The epidemic of scarlet fever, though still prevalent, is mild. The cases of typhoid fever are increasing as well as the deaths therefrom.

Ulster Medical Society.

At the usual monthly meeting of this society held on May 3rd Dr. Tennant read notes on a case of Dyspepsia due to Adhesions treated Surgically; Dr. W. Calwell read a paper on Gastroptosis; a discussion followed, in which Dr. C. Kevin, Dr. McKisack, and Dr. Mitchell took part. Dr. James Craig exhibited a specimen showing Extensive Adhesions of the Stomach to neighbouring Viscera and he communicated notes on a case of Visceraptosis with Hour-glass Stomach, illustrated by lantern-slides and specimen. A communication, Notes on the Chemical Treatment of Sewage, by Dr. Allworthy, was read by the secretary.

Death of Mr. James Smith, L.R.C.P. Irel., F.F.P.S. Glasg.

Mr. James Smith, a well-known medical practitioner, died in Belfast on April 25th, at the early age of 52 years, from diabetes, from which he had been suffering for some considerable time. Residing in a densely populated working-class district of Belfast Mr. Smith had a very large practice and was specially skilful in midwifery. He contributed several papers of a practical nature to the medical journals on obstetric subjects. He wrote a thesis, "Reminiscences of 6000 Accouchements, comprising 1366 Operations." His other papers were: "One Thousand Instrumental Deliveries, with Remarks on a New Axis-traction Forceps," "On a new Cephalotribe: its Utility Illustrated and its Efficiency Proved by Difficulties Encountered in 4000 Labours," "The Early and Forcible Dilatation of the Os Uteri as a Successful Method of Treatment in Placenta Prævia, with Cases." He invented a combined cephalotribe and craniotomy forceps and an improved axis-traction forceps. A man of great kindness and geniality, he was much beloved by the poor, to whom he was most attentive. He was buried on April 28th, his remains being interred in Balmoral Cemetery, Belfast. A very large number of friends were present. He leaves one son, his wife having died some years ago.

May 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Academy of Medicine.

AT the meeting of the Academy of Medicine held on April 24th M. Laveran, the well-known discoverer of the hæmatozoon of malaria proposed that the Academy should nominate a committee of members who should go to Algeria and study on the spot the part played by mosquitoes in the production of malarial fever. They could then deduce principles for prophylaxis. Professor Blanchard strongly supported the idea, citing the examples of the commissions sent by England and Italy to Africa and Asia for similar purposes. He remarked that the question of the distribution of the hæmatozoon through the agency of mosquitoes of the genus anopheles had revolutionised previous ideas as to the etiology of malarial fever. It was an incontrovertible fact that the geographical distribution of the anopheles coincided with that of malarial fever. The question was one deserving of the most careful study. The Academy unanimously agreed to send a commission to Algeria, and the following gentlemen were selected: M. Laveran, M. Blanchard, M. Kelsch, M. Railliet, M. Vallin, and M. Vincent.—At the same meeting the Academy, in conformity with the powers given to it by the Government, formally registered its acceptance of the magnificent bequest left by the late Professor Tarnier. That well-known and deeply-regretted obstetrician has left a sum which will produce some 5000 francs per annum. Of this income 3000 francs are to be allotted as a yearly prize to what shall be, in the opinion of the Academy, the best work, either printed or written, dealing with obstetrics and gynæcology. With reference to Professor Tarnier, a somewhat amusing incident occurred at a meeting of his old pupils who had previously set on foot a subscription to put up a memorial to their old master. It must be mentioned that these old pupils are now divided into two groups, one of which is attached to the person of Professor X——, and the other to that of Professor Z——. The sculptor to whom had been entrusted the execution of the memorial, which was to be paid for by money collected from both these groups, had the idea of modelling besides the statue an important bas relief which was to be placed on the pedestal and which should represent Professor Tarnier giving a demonstration to his pupils upon a pregnant woman. Portraits of the principal pupils of the late master were to be made easily recognisable. This idea was, however, not looked upon with favour by the committee of the memorial, and when the sculptor, M. Puech, for the second time submitted his model for approval prior to its final execution in bronze the quarrel began again. The two groups could not decide among themselves what proportion of portraits should be allotted to each and therefore most likely this portion of the scheme will be dropped and no portraits will be introduced. The new buildings which are at present being constructed for the Academy of Medicine in the Rue Bonaparte, which it was hoped would be ready at the same time as the Exhibition, will certainly not be ready this year, greatly to the annoyance of the academicians, who find their quarters in the old chapel belonging to the Hôpital de la Charité much too small. Interminable negotiations preceded the commencement of the building, but with these I have already acquainted your readers. When the site, next to the École des Beaux Arts, had been chosen, the plans approved, and the buildings commenced, the authorities of the École des Beaux Arts absolutely refused to allow a wall to be pulled down on which they had placed antique bas-reliefs and mosaics. The works had to be stopped and were only resumed after a great deal of discussion and careful underpinning and propping of the wall.

School Teachers as Vaccination Propagandists.

At the meeting of the Academy of Medicine held on May 3rd M. Hervieux, who is a singularly keen supporter of vaccination and who never loses an opportunity of speaking on the efforts made for the diffusion of Jenner's principles, spoke on the very great influence which school-teachers of both sexes can exercise in the matter under consideration. It is on these valuable auxiliaries that reliance must be placed, especially in country districts, to overcome the ignorance and prejudice of the population. Their most

common method of procedure is to constantly press upon parents the need for having their children vaccinated, while they also persuade the children themselves not to object to the performance of the operation. Some give lectures and hold meetings in the villages, some apply to the municipal councils for a grant in aid of vaccination, and some are ready and willing to perform the operation and undergo vaccination themselves as an example for the people to follow when there happens to be an epidemic. For all this M. Hervieux, at the conclusion of his paper, while giving every credit to the amount of zeal displayed by this band of willing workers, declared that in his opinion France would never be finally freed from the plague of small-pox till vaccination should be made obligatory. A Bill to this effect has already passed through the Chamber of Deputies, but has been waiting many years for discussion in the Senate. At the conclusion of M. Hervieux's paper M. Pinard, while making certain reservations as to the conduct of the teachers in vaccinating themselves, ended by saying that the thing to be done was to press for making vaccination obligatory.

May 8th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Military Surgery in the Boer Army.

PROFESSOR VON ESMARCH has consented to the *Münchener Medicinische Wochenschrift* publishing letters addressed to him by Dr. Hildebrandt, formerly his assistant, who is now medical officer to a German ambulance with the Boer forces. The first letter was dated from Jacobsdal on Jan. 21st and was highly interesting from several points of view. The majority of the wounds treated in the field hospital were caused by the Lee-Metford rifle. Simple wounds of the soft parts generally healed very well without suppuration, except when the shot had been fired from a very short distance. This seldom happened in fighting, but some Boers shot themselves wilfully with their own rifles in order to be released from military service. In these cases the wound of entrance was very small as in all the other wounds of soft parts; the wound of exit, however, was very large and the muscles were lacerated. It was an interesting fact, not from a surgical but from a psychological standpoint, that these "accidents" happened always a day before a battle was expected. The very small amount of hæmorrhage was a remarkable circumstance. Soldiers with wounds of the extremities continued to fight and were even able to ride to the dressing-tent without support. The majority of the Boers, however, when slightly wounded seized the opportunity of withdrawing from the battle-field. Dr. Hildebrandt also drew attention to the action of lyddite shell which on exploding emitted a poisonous gas, so that the Boers who were in the neighbourhood suffered from headache and nausea. Dr. Küttner, another of the German surgeons at Jacobsdal, in a letter addressed to Professor Bruns of Tübingen, confirmed the opinion of the latter that the prognosis of the wounds inflicted by modern rifle-bullets was good and that conservative treatment was advisable. Wounds of the skull and the brain were usually very serious and often required operative treatment, whilst wounds of the thorax usually healed very well. As to wounds of the abdomen, their prognosis was better than was supposed. A good many of them healed under expectant treatment without laparotomy, an experience in accordance with that of Sir William Mac Cormac and Mr. Watson Cheyne. The results were not improved by laparotomy. Wounds of the liver were not observed at all because the wounded died on the battle-field; wounds of the kidneys were more frequent and of a better prognosis. The observations of Dr. Küttner on wounds of the extremities were in accordance with those of Dr. Hildebrandt. In a postscript he describes the state of the wounded of General Cronje's laager after his surrender at Paardeberg. Owing to the want of surgical aid the wounded had been ten days without dressings. The wounds were covered with tobacco-leaf and nearly all were septic. Many operations were therefore necessary and there were many deaths from septicæmia and tetanus.

The Courts of Honour.

The Prussian Minister of Educational, Ecclesiastical, and Medical Affairs, in his capacity as head of the medical department, has issued regulations to the newly instituted courts of honour. These regulations require the courts of honour to keep registers in which the name of every medical man under their jurisdiction is to be entered. If a medical man has been convicted of some offence the punishment must be recorded in the register. The presidents of the courts are instructed to send extracts from the registers to the public prosecutors at the courts of criminal law, whilst these officials are instructed to give notice to the medical court when a medical man has been convicted on a criminal charge. These regulations, by which the presidents of the medical courts are reduced to a position of dependence on the Government executive, have caused general disappointment. The medical press unanimously disapproves of these instructions and the president of the Berlin court, Dr. Becker, has declined to be sworn as long as these regulations are in force; and the committee of the medical chambers has addressed an energetic protest to the Government.

Malingering by Military Recruits.

In Germany, as in almost every continental country, military service is obligatory, and the law provides severe penalties for those who try to escape this duty by fraudulent means. Cases of this kind are infrequent, and a great sensation was caused when it was known that the military authorities had discovered that an agency existed in Rhenish Prussia by which young men were systematically enabled to evade the conscription. The army medical officers in that province charged with the examination of the young men selected for military service found some time ago that a relatively great number of recruits had to be rejected because they suffered from jaundice and from cardiac palpitations, also a certain number of young soldiers showed those symptoms at the commencement of their service in the army so that they had to be discharged. The cause of these remarkable phenomena was discovered by an accident. In the belongings of a soldier admitted into the military hospital for alleged cardiac disease a box was found containing pills which were proved by chemical analysis to contain large doses of caffein. On inquiries being made it was ascertained that the recruit had received the pills from a man named Struckeberg, who was thereupon arrested. The police then discovered that this man had been the head of an agency which had enabled numerous young men to escape service in the army. He had been in association with a medical man, Dr. ——, to whom he used to send his clients. Dr. —— examined them and when he found the young men fit for military service he prescribed pills of caffein in strong doses to produce cardiac palpitations or pills of picric acid to produce symptoms of icterus. Both the medical man and the agent were therefore prosecuted together with a number of young men before a court at Elberfeld. The agent had died previously to the trial, but Dr. —— was found guilty and condemned to ten months' imprisonment. Dr. —— had been known to be of very low professional standing, and during the trial there was no indication that other medical men had been connected with the case—the "pills case," as it was popularly designated.

May 7th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Lunatic Asylums.

DR. J. WARNOCK'S annual report has just been issued from the one hospital for the insane which Egypt has considered sufficient for her needs since the thirteenth century when the first was established. But increasing civilisation means that fewer and fewer lunatics and idiots are kept by their friends or families, and therefore the hospital becomes more and more crowded. Perhaps the benevolence of the present day is waning, or is it that there is less wealth, or perhaps as we English would fain believe, the intelligent native now understands that under our control he may send his relative, whom he still calls "struck by the wrath of God," to the asylum which only 15 years ago was justly called an abomination to the human race. The number of resident patients has risen from 300 to 500, not from any increase in lunatics, but from the necessary accumulation of uncured chronic patients. And yet during the year 1899 no fewer than 274 men and women had to be discharged still insane to make room for

more urgent cases. This is an obvious danger to the public which the English advisers of the Egyptian Government ought to face without delay. England provides exactly 50 times as much asylum accommodation as Egypt per head of population. Another great disadvantage of the present asylum is that it is the only resort for criminal lunatics. During last year 23 men and four women were admitted charged with crimes, including six murderers. The analysis of the insane shows hasheesh as the cause of 22 per cent., pellagra as the cause of 5 per cent., and alcohol as the cause of 3 per cent., while the number of general paralytics has advanced to 6 per cent. The large towns furnished nearly all the last class and most of them are known to have had syphilis. The total admissions for the year were 598, including 17 nationalities besides Egyptians. Only one Englishman was admitted.

The Winter Season.

The Cairo season is practically over. Four of the best-known hotels have closed their doors and the most energetic of the proprietors are already considering what improvements they can make during the coming summer. Last autumn it was thought that the number of visitors would be alarmingly small, because it was foreseen that the leisured English would prefer to remain at home to get as great as possible a supply of war news, but so many Americans have flocked here on their way to Paris that the total number of tourists has been quite up to the average. Unfortunately, the unusually low Nile has spoiled the pleasure of those late comers who insisted on attempting the journey by river when all the boats were sticking on sandbanks.

Infectious Diseases.

The winter has proved no exception to the rule that influenza is brought to us every year by convalescent patients from England and other parts of Europe. A patient in London is, rightly enough, ordered away to the sunny south directly he is well enough to travel, but on the journey out a second member of the family succumbs to the infection, and perhaps a third member is attacked by influenza the day after reaching Egypt. This is a fair risk which all health resorts must willingly run. But there are other causes of the spread of the disease which might be preventable if the profession would lift up its commanding voice and teach the public that influenza is just as contagious a disease as is measles or small-pox. When for instance, influenza breaks out in 50 or 60 first-class passengers on a P. and O. steamer is anything done to purify the cabins of the sick before they are again occupied? When a feverish coughing patient has tenanted the sleeping berth of the wagon-lit company are the compartment and the bedding even aired before next being used? In hotels is extra ventilation employed or is the same germ-holding mosquito net used time after time for innocent or careless new tenants? There are probably many other easy methods of spreading infection, but I mention only those which seem to have caused many new cases this year. Patients here comfort themselves by reflecting that if they must have influenza at all it is better to have it here than in London or New York. Here the disease is milder and seldom advances beyond a bronchial catarrh lasting a fortnight, while the sufferer can usually have his window open by day and can get out of doors during convalescence. For a month Cairo was quite under the influence of the epidemic. At one of the large hotels no dances could be given because so many of the waiters were in hospital, and several of the Government schools had to be closed. Measles too has been rife among the native children and the children's ward at Kasr-el-Aini Hospital had to be closed for a time. Small-pox may always be a danger in Egypt because, although the natives believe implicitly in vaccination, and seldom try to evade it, they have no knowledge of the importance of revaccination. This dates from the time when their ancestors believed, like the Turks, that inoculation in childhood was the only important preventive. Since the beginning of this year there has been an increase in the native cases of small-pox, and now every day revaccination is being very zealously carried out by the district medical officers of Cairo. Small-pox cases as they occur are sent to the isolation hospital at Abbassiyeh or to the fever wards of the German Hospital. Two visitors were treated for the disease at Assouan.

The Plague.

Egypt is fortunately still free from plague and it looks as if all the good work at Alexandria did really stamp out the disease. The pest has now been for some time at Aden and as this military station is under the ruling of Bombay it cannot reasonably be expected that greater energy or foresight could be displayed there than in the Indian city. The disease has now been allowed to creep up the east coast of the Red Sea to Lohaia and even to Yambo. There is nothing to protect the Hedjaz, now over-run by fanatics, and extra care will have to be exercised by Egypt when the pilgrims arrive at the quarantine station of El Tor, where Dr. Ruffer is now making all his preparations. Dr. Rountree has gone there with some native medical men to take charge of the hospital and Miss Cutler has again gone to inspect women pilgrims.

Cairo, April 23rd.

Obituary.

GEORGE VINER ELLIS, F.R.C.S. ENG.

ON April 26th there passed away a member of the profession whose name was a household word to many generations of medical students as one who guided them through the difficulties of the study of anatomy. George Viner Ellis was born on Sept. 25th, 1812, being the second son of Mr. W. Viner Ellis, of Duni House, Minsterworth, near Gloucester, where his family had for many years held property. He was educated at the Crypt Grammar School and afterwards at the Cathedral Grammar School. After completing his studies at these two establishments he was apprenticed to Dr. Buchanan of Gloucester, and afterwards, on the advice of his uncle, Daniel Ellis, F.R.S. Edin., sent to the then newly-founded University College, London. Here he was a most successful student and was appointed demonstrator of anatomy to Professor Richard Quain. During this period of his career he was strongly advised by his friend, Dr. Evans of Gloucester, to study in Paris, a course which he carried out in his vacations. Besides studying in Paris he also attended lectures and worked at anatomy in Berlin. He became a Member of the Royal College of Surgeons of England in 1835, and on Dec. 11th, 1843, was elected one of the first Fellows of that body. Of the 300 Members who were then elected Fellows only three are now left. In 1850 he succeeded Richard Quain as Professor of Anatomy at University College, an appointment which he held for 27 years, resigning in 1877 when he was appointed Emeritus Professor. The first edition of the "Demonstrations of Anatomy" was published when he was about 28 years of age. Together with William Sharpey he was co-editor of the sixth edition of Quain's "Elements of Anatomy," which was published in 1856, the description of the nervous system being in great part written by him. In 1863 he, in conjunction with Mr. G. H. Ford, published "Illustrations of Dissections." This work consisted of a series of coloured plates of life-size representing dissections of the human body. It was originally published in parts but afterwards appeared in two volumes. The drawings were executed in colours on stone by Mr. Ford directly from dissections done by Mr. Ellis. Following the example of his uncle, Daniel Ellis, who settled in Edinburgh and devoted himself to scientific research, George Viner Ellis did little or no practice, preferring to devote himself to teaching and scientific work. After his resignation of his professorship he retired to his native place, where he built himself a house and passed the remainder of his days with his sister. Here he lived very quietly, occupying his time, as one who could never bear to be idle, with gardening and with teaching the older boys of the parish in a night school. At the time of his death he was in his eighty-eighth year.

JOHN WIBLIN, F.R.C.S. ENG.

ON April 27th there passed away, at his residence, Northleigh, Wimborne, Dorset, John Wiblin, F.R.C.S. Eng., aged 87 years. Mr. Wiblin studied at University College, London, and Paris, became a Member of the Royal College of Surgeons of England so long ago as 1837, and took the Fellowship by examination in 1849. Soon after taking his Membership he settled in Southampton where he was appointed a sanitary surveyor to the Board of

Trade and medical superintendent of quarantine to the Royal Mail and Union lines of steamers. He was a most enthusiastic fisherman, although previously to 1877 he had never had a rod in his hand. Concerning this portion of his career Mr. R. B. Marston gives an amusing account in the *Fishing Gazette* of May 5th. On his first day, with that extraordinary luck which sometimes attends the beginner, he caught three salmon in an Irish river. Mr. Wiblin contributed one or two papers to professional journals and was the author of a little book called the "Medical Students' Guide to the Hospitals of Paris."

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the third examination for medical and surgical degrees, Easter term, the following candidates were successful:—

Part II., Medicine, &c.—S. Bousfield, M.A., Caius; J. Bradford Emmanuel; H. P. Bradley, B.A., and G. V. Bull, B.A., Caius; T. Burfield, B.A., Emmanuel; C. J. Coleman, B.A., Trinity; B. J. Collingwood, B.A., Caius; W. S. Darby, B.A., and W. M. Fletcher, M.A., Trinity; J. H. P. Fraser, B.A., Jesus; O. F. F. Grünbaum, M.A., Trinity; J. Gutch, M.A., Christ's; D. G. Hall, B.A., Emmanuel; A. C. Hill, M.A., Trinity; T. E. Holmes, B.A., G. F. Lobb, B.A., and J. L. Lock, B.A., Caius; J. W. Malim, B.A., Christ's; H. N. Matthews, B.A., J. C. Matthews, B.A., and F. J. Nicholls, St. John's; L. J. Paton, B.A., Caius; A. C. Pearson, B.A., Sidney Sussex; J. H. Philbrick, B.A., and G. R. Slade, Inc., Trinity; J. G. Taylor, B.A., and T. S. Taylor, B.A., King's; R. A. Walker, B.A., Clare; and A. Whitmore, B.A., and W. M. Willoughby, B.A., Caius.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. L. Jacobsohn and Dr. A. Lazarus have been recognised as *privat-docenten* of Internal Medicine and Dr. Pels-Leusden as *privat-docent* of Surgery.—*Budapest:* Dr. August Hirschler, *privat-docent* of Internal Medicine, has been promoted to an extraordinary professorship.—*Chicago (Rush Medical College):* Dr. L. F. Barker of Baltimore has been appointed to the chair of Anatomy.—*Florence:* Dr. Luigi Guaita of Sienna has been appointed Professor of Ophthalmology in succession to Dr. Cesare Paoli, resigned.—*Giessen:* Dr. Peter Poppert has been appointed Professor of Surgery, with charge of the surgical clinic, in succession to Professor Bose who is retiring; Dr. Friederich Best has been recognised as *privat-docent* of Ophthalmology.—*Göttingen:* Dr. Siemerling of Tübingen having declined the invitation to migrate, Dr. August Cramer, son of the late Professor of Psychiatry in Marburg, has been appointed to the chair of Mental Diseases with charge of the clinic connected therewith.—*Greifswald:* Dr. Paul Strübing has been promoted to an ordinary professorship of Internal Medicine.—*Halle:* Dr. Nebelthau of Marburg has been appointed Director of the Medical Polyclinic in succession to Dr. von Mering; Dr. Franz has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Heidelberg:* Dr. F. Göppert, *privat-docent* of Anatomy, has been promoted to an extraordinary professorship; Dr. Gustav Aschaffenburg has been promoted to an extraordinary professorship of Mental Diseases.—*Marburg:* Dr. Ernst Romberg of Leipsic has been appointed Extraordinary Professor of Internal Medicine; Dr. Hugo Ribbert of Zurich has been appointed to the chair of General Pathology and Pathological Anatomy in succession to Professor Marchand.—*Munich:* Dr. Ludwig Neumayer, Assistant in the Anatomical Institute, has been recognised as *privat-docent*.—*Padua:* Dr. Giacinto Viola has been recognised as *privat-docent* of Medical Pathology, Dr. Ferdinando Gangitano as *privat-docent* of Surgical Pathology, and Dr. Ercole Crespi as *privat-docent* of Surgery.—*Palermo:* Dr. Giuseppe Pollaci and Dr. Girolamo Scaglioni have been recognised as *privat-docenten* of Pathological Anatomy and Dr. Luigi Philippson as *privat-docent* of Dermatology and Syphilography.—*Philadelphia Polyclinic:* Dr. Jay F. Schamberg has been appointed Professor of Dermatology in succession to Dr. M. J. A. Cantrell, resigned.—*Prague (Bohemian University):* Dr. V. Mladejowski has been recognised as *privat-docent* of Balneology and Climatology.—*San Francisco (University of California):* Dr. T. W. Huntington has been appointed Assistant Professor of Surgery.—*St. Petersburg (Military Medico-Chirurgical Academy):* Dr. Voïnich-Sianoshenski has been recognised as *privat-docent* of Surgery.—*Vienna:* Dr. Ludwig Braun has been appointed *docent* of Internal Medicine.

THE INEBRIATES ACT.—At a meeting of the Monmouthshire County Council held on May 2nd it was decided to contribute £1000 to the Brentry Victoria Homes, Bristol, which will entitle the council to the concurrent use of seven beds for the year. A further payment of 6*d.* per day per patient is necessary.

VACCINATION RETURNS.—At the meeting of the Truro Board of Guardians held on May 2nd it was reported that in the districts of West Kenwyn and St. Mary's during the past three months there had been 146 births; 90 successful vaccinations had been performed; six exemption certificates had been granted; and 150 notices had been sent to defaulters.

VACCINATION in Leicester is decidedly on the increase. At the meeting of the board of guardians on Tuesday, May 8th, the vaccination officer reported that during the month of April 33 certificates were received, as against six for the corresponding month of 1899, whilst there were 38 certificates of postponement owing to the health of the child, compared with *nil* last year.

NOTIFICATION OF MEASLES.—At a meeting of the Newquay (Cornwall) Urban District Council held on May 1st the medical officer of health (Dr. A. Hardwick) reported that 149 cases of measles had been notified during April. After a considerable discussion the council decided to ask the Local Government Board to consent to measles being excluded from the list of notifiable diseases in Newquay.

FREEMASONRY.—*Rahere Lodge, No. 2546.*—An ordinary meeting of this lodge was held at Frascati's Restaurant on May 8th, W. Bro. R. J. Reece, M.D. Brux., W.M., being in the chair. Bro. H. E. Thompson, M.B. Lond., was admitted to the third degree in Freemasonry. W. Bro. Walter Gripper, M.B. Cantab., was elected W.M. for the ensuing year and W. Bro. Clement Godson, M.D. Aberd., was re-elected treasurer. The brethren and the guests afterwards dined together.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the President, Vice-President, and council held on May 1st the following examiners were elected:—Examiners in Anatomy: Ambrose E. I. Birmingham and Alexander Fraser. Examiners in Surgery: H. Gray Croly and William Stoker. Examiners in Physiology and Histology: Charles Coppinger and J. Alfred Scott. Examiner in Biology: John J. Burgess. Examiner in Pathology and Bacteriology: Arthur Hamilton White. Examiner in Pathology: Joseph D. M'Feely. Examiner in Midwifery and Gynæcology: Frederick W. Kidd. Examiners in Ophthalmology: Arthur H. Benson and Louis Werner. Examiner in Sanitary Law and Vital Statistics: James H. Fergusson. Examiner in Engineering and Architecture: J. Charles Wilmot. Examiners in Dental Surgery and Pathology: Arthur W. W. Baker and Daniel Corbett. Examiners in Mechanical Dentistry: George M. P. Murray and William Booth Pearsall. Examiners in Chemistry and Physics: Edwin Lapper and Robert J. Montgomery. Examiner in Languages: L. J. Woodroffe. Examiner in Mathematics, Physics, Dictation, and English Essay: J. W. Tristram.

KING'S COLLEGE HOSPITAL.—The annual festival dinner of King's College Hospital was held in the Whitehall Rooms, Hôtel Métropole, on May 7th, under the presidency of Mr. W. F. D. Smith, M.P., who was supported by Viscount Dillon (chairman of the committee), the Rev. Dr. Wace (ex-principal of King's College), and the medical staff of the hospital. The Chairman, in proposing "Success to the King's College Hospital," mentioned that since the opening of that institution in 1839 over 100,000 in-patients and nearly 1,500,000 out-patients had received the benefits of medical assistance. The assured income now amounted to £2500 per annum, while the expenditure reached £19,000, so that nearly £17,000 were required annually in voluntary subscriptions.—Viscount Dillon pointed out that during the past 20 years the character of the neighbourhood surrounding the hospital had altered and the demands upon the resources of the institution had largely increased. The sum collected during the evening was £2765 5*s.*, including £200 from the Chairman and £500 from Mr. W. H. Bell, £100 from Mr. C. P. Serocold, £50 from the Duke of Bedford, £525 from Messrs. W. H. Smith and Sons, and £105 from Mr. C. P. Johnson.

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POOR-LAW MEDICAL OFFICERS AND THEIR DEPUTIES.—At a recent meeting of the Shepton Mallet Board of Guardians Mr. J. F. Fry, medical officer of the Shepton Mallet district, asked the board to accept Miss Glynn, his fully qualified assistant, as his deputy, but the guardians refused the request by 10 votes to four.

AN HONOUR IN HIS OWN LAND FOR MR. TREVES.—At a meeting of the Dorchester Town Council held on May 2nd it was unanimously resolved to offer the freedom of the borough to Mr. Frederick Treves, F.R.C.S. Eng. Mr. Treves is a native of Dorchester and received his early education in that town where his family for many years resided.

THE PREVENTION OF TUBERCULOSIS. — On April 19th, as already announced, the Devon and Cornwall Branch of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis held its annual meeting at Plymouth. The report of the committee gave some interesting information as to the existence of tuberculosis in dairy cattle in the west. Out of 204 cows in the Ilfracombe district only one was found to be tuberculous. As regards the question of notification the sanitary committees of Devonport and Stonehouse are considering the question of voluntary notification. The committee draw attention to the extreme amount of overcrowding which exists in Plymouth, including Devonport and Stonehouse. The proportion of dwellers in single-room tenements per 1000 inhabitants is as follows: England and Wales, 47 per 1000; London, 184 per 1000; Three Towns, 244 per 1000. The report was duly accepted and then Mr. J. Y. Woollcombe moved the following: "That this meeting is in favour of the formation of a committee to promote the provision of a sanatorium for the treatment of consumption among the poorer classes in Devon and Cornwall." The motion was carried unanimously and the Mayor, Archdeacon Wilkinson, Dr. F. G. Bushnell, Mr. W. Hurrell, Mr. J. P. Bickle, Mr. J. Y. Woollcombe, and Mr. H. Cecil Wills were appointed as a committee with power to add to their number.

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, MAY 2ND.

The Rating of Institutions for Imbeciles.

AT this sitting of the House a Bill was brought on for second reading to exempt from poor and other local rates all registered institutions for the care, training, and education of idiots and imbeciles. After the Bill had been recommended to favourable consideration by certain of its supporters Mr. T. W. RUSSELL replied on behalf of the Government. He explained that in the present state of things wherever there was a beneficial occupation the property was liable to rating and the liability was not affected by considerations of whether or not a profit was made by the occupation or whether or not the property was occupied for charitable purposes. He was aware that certain exemptions had been made but the principle of exemption might be carried too far and it must be remembered that every exemption of any special institution placed an additional burden on the general rate. The First Lord of the Treasury had recently stated that before arriving at any conclusion as to the exemption of hospitals from rating it would be necessary to have an inquiry by a Select Committee and he (Mr. Russell) was now authorised to say that the proposed inquiry would cover the institutions dealt with in this Bill as well as hospitals. In these circumstances he hoped that the Bill would not be pressed. After this statement the promoters of the Bill withdrew it.

THURSDAY, MAY 3RD.

Inoculation Experiments in India.

Sir CHARLES CAMERON asked the Secretary of State for India whether he would, as promised last session, lay upon the table papers showing the extent to which inoculation against cholera and typhoid fever had been practised in India and with what apparent results, and any other information on the subject.—Lord GEORGE HAMILTON replied: I have no complete or detailed reports to present concerning the results of inoculation against cholera and typhoid fever, both of which, and especially the anti-typhoid inoculation, are still in the stage of experiment, but I can lay upon the table of the House extracts from periodical sanitary and other reports which will show what is being attempted and done in these important matters.

Notification of Deaths to the Coroner.

Mr. THORNTON asked the Home Secretary whether in the Lunacy Bill before Parliament he would consider the desirability of making provision that all cases of lunatics dying in workhouses and institutions under the control of the guardians should be reported to the coroner, as was done in all asylums and houses licensed for the reception of lunatics.—Sir MATTHEW WHITE RIDLEY replied: I think that the suggestion of my hon. friend is a desirable one, but I find that legislation is not necessary to carry it out. In some Poor-law institutions it is already the practice to notify the deaths of lunatics to the coroner, and the Local Government Board have the power, and are, I understand, prepared, to issue an order requiring that this should be done in all the institutions.

The Plague Commission in India.

In the course of an answer to Mr. WEIR on the subject of the expenses of the Indian Plague Commission Lord GEORGE HAMILTON said that the labours of the Commission will probably not be concluded before the end of July.

FRIDAY, MAY 4TH.

Medical Certificates in the Postal Service.

Mr. STEADMAN asked the Secretary to the Treasury, as representing the Postmaster-General, whether his attention had been called to the case of Mr. Howson, a probationary telegraphist in the Central Office, London, who was certified as unfit for duty by a medical man, and to the fact that the post-office medical officer disregarded this certificate and compelled the clerk to duty, with the result that Howson was found in a fainting condition in the instrumental gallery and was removed by the superintendent to the medical department; whether, in spite of the protests of the superintendent, the medical officer declined to permit the patient to cease duty, and it was not until another application had been made after a lapse of some hours that Howson was permitted to leave the office; and whether the Postmaster-General could state the reason for the non-acceptance of the private practitioner's certificate, and the treatment of Mr. Howson after his superior officer had stated that the clerk was too ill to perform his duties.—Mr. HANBURY replied: The facts are as follows: Mr. Howson wrote on March 20th that he was ill and furnished a private medical certificate that he was suffering from debility with attacks of faintness and required a few days' rest. He was given leave until the 23rd when he was seen by the official medical officer. That officer considered that in Mr. Howson's own interest he should try to take up his duty, which he did, but within a few hours he had two nervous attacks, and he was then put off duty and granted sick leave till March 27th. He then resumed duty for two days, when he was granted sick leave till April 2nd, on which day Mr. Howson was allowed to go on his annual leave. The medical officer states that he was suffering from simple nervous debility brought on by over-study at home.

MONDAY, MAY 7TH.

Food for the Troops.

Mr. BROADHURST asked the Under Secretary of State for War whether the War Office had had submitted to them a food which was healthy and satisfying, a pound weight of which would be sufficient for a day's ration and could be carried in a small tin; and, if so, whether the Government had approved of the article, and whether they would supply the troops now in South Africa with the food referred to.—Mr. WYNDHAM replied: Many samples of various foods have been submitted to the War Office for trial, but none has been received complying with all the conditions mentioned in this question.

The Special Rules for Lucifer Match Factories.

Captain NORTON raised a debate on the special rules of the Home Office with regard to the employment of persons in lucifer match factories in which white or yellow phosphorus was used. Both Captain Norton and Sir Charles Dilke condemned the rules as inadequate.—Sir MATTHEW WHITE RIDLEY, while admitting that better means of enforcing all special rules for dangerous trades were desirable, said that the special rules in question were a great improvement on the old state of things and it would be a great mistake to annul them. He assured the House that if opportunity occurred, through the advances of science of strengthening the rules in the interest of the health of the workers, it would be done.—Captain NORTON'S motion to annul the rules was rejected by 98 to 37 votes.

TUESDAY, MAY 8TH.

Disease in the Indian Famine Relief Camps.

Mr. MACLEAN asked the Secretary of State for India, with reference to the outbreaks of epidemic disease in the Indian famine relief camps, whether official information showed that the allowance of food granted to famine-stricken patients had been found sufficient to strengthen them against the attacks of disease; and what was the value, stated as nearly as possible in English money, of the daily rations provided by Government for men, women, and children.—Lord G. HAMILTON replied: The local Governments and their officers are keeping careful watch as to the sufficiency of the relief wages in all districts, and instructions have been given by the Government that the wage rates should be raised at any work where they appeared inadequate to maintain the people in health. As was stated in my answer to a similar question by the hon. member for Banff in March last, "The average daily wage cannot be stated in sterling, being based upon the current price of food in the district in question, and varying accordingly from week to week. The wage for an adult is the money equivalent of from one and a half pound to two and a half pounds of grain per diem."

Introduction of Sir John Batty Tuke.

Sir John Batty Tuke, M.D., the successor of the late Sir William Priestley in the representation of the Universities of Edinburgh and St. Andrews, was introduced to the House at this sitting by Sir Michael Foster and Mr. James H. Campbell. The latter is the representative of the Universities of Glasgow and Aberdeen. The new Member took his seat on the Ministerial side of the House, where in the course of the sitting he received the congratulations of many friends.

The Treatment of Sewage.

On the motion of Mr. STEPHENS a Bill was introduced and formally read a first time to enable local authorities to deal separately with the sewage and drainage of their districts.

PRESERVATIVES AND COLOURING MATTERS IN FOOD.

The Departmental Inquiry.

WEDNESDAY, MAY 2ND.

The Committee appointed by the President of the Local Government Board to inquire into the use of preservatives and colouring matters in food held a meeting to-day at the rooms of the Chemical Society

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Burlington House. The committee consists of Sir Herbert Maxwell (chairman), Professor Thorpe, Dr. Bulstrode, and Dr. Tunnicliffe, with Mr. Charles J. Huddart as secretary.

The only witness examined on this occasion was MR. ARTHUR S. LOUGH, member of the Irish Agricultural Organisation Society and Managing Director of the Cavan Creameries, Limited. His evidence had reference almost entirely to the work of Irish creameries which, he said, had brought about a revolution in the Irish butter trade. He explained that the creamery industry began in the south eight or ten years ago and in the north about two and a half years ago, and at the present moment there were between 500 and 600 creameries in the island of which about 260 were cooperative creameries. In Ulster alone there were 106 cooperative creameries working and 30 more in course of formation. The majority of the creameries, he said, used preservatives in summer for the butter. One of the reasons why they used preservatives was that they were asked to do so by the wholesale firms. In his opinion a far less quantity of preservative might be used than was used. It had been treated practically as salt because there had never been any complaint heard about its use. But as a matter of fact, they could do very well without any preservative, and the creameries with which he was connected intended to do without it and they expected to get a higher price for their butter. He supposed that the wholesale dealers found that there was not a demand for a large quantity of what might be described as saltless or fresh butter and consequently they wished for butter which would keep a certain time and the creameries made this butter to suit them. He considered pasteurisation to be most valuable, especially in the case of milk from house-fed cows, and he could not believe that it deteriorated the flavour of the butter as had been alleged by some witnesses. The temperature which he used for pasteurisation was from 175° to 185° F. The Irish butter trade suffered greatly from deficient means of transport. They were without suitable wagons. In fact, there was not such a thing as a refrigerator car in the whole of Ireland at the present moment. Representations had from time to time been made to the railway companies without success, but something was now hoped from the pressure which the new Agricultural Board would be able to bring to bear. With regard to colouring matter Mr. Lough said that in Ireland the butter was very nearly the same in colour in summer and in winter, but when artificial colouring was required a little quantity of annatto was introduced, and, indeed, most dairies in Ireland kept annatto to rectify any mistakes which might occur.

By Professor THORPE: The tendency of his evidence was to deprecate the use of preservatives in butter. He believed that with due attention to cleanliness, and recourse if necessary to pasteurisation, the butter trade in Ireland would with proper organisation be able to do without preservatives in a very short time. If preservatives were found after due scientific inquiry to be harmful then he should advocate their prohibition, but he might tell the Committee that the Irish Agricultural Organisation Society had heard nothing of harm resulting from the use of preservatives.

By Dr. BULSTRODE: He felt confident that though at first the prohibition of preservatives would cause a good deal of trouble the trade would soon adapt itself to the necessities of the situation.

MONDAY, MAY 7TH.

The Committee held another meeting to-day in the rooms of the Chemical Society, Burlington House. The only members of the Committee present were Professor Thorpe and Dr. Bulstrode.

Dr. ROBERT HUTCHISON, assistant physician at the London Hospital, examined by Dr. BULSTRODE, said that he had made some experiments as to the effect of boric acid on the acidity of the urine and he had extended these. The net result was pretty well this, that even such a dose of boric acid as 10 grains taken twice a day upon a full stomach by himself for a length of time up to a fortnight continuously had no effect at all. He observed no bad effects; there were no signs of stomach or intestinal irritation; and he might say that he knew of nothing which was calculated to make his experience a departure from the normal. If he had a weak point at all it was his stomach, so that if there were an effect at all he should expect it there. He had also taken small doses of borax. He had taken for some length of time a mixture of two and a half grains each of borax and boric acid twice a day and it had had no effect to his knowledge. The inference he drew from his own experience was that the amount of boric acid or borax which would be sufficient to preserve the quantity of milk likely to be taken by the average man in 24 hours would not in a healthy man produce any bad effects. He had given in cases of epilepsy borax combined with bromide and had had good results, but he could not say whether they were due to the bromide or the borax. It was conceivable that where there was kidney trouble the same good results might not be obtained. If the Committee had been told that as much as 20 grains of boric acid had been found in a pint of milk, then all he would say was that he should not like to take such a quantity in a dose, and with regard to children he could easily understand harm resulting from boric acid in the milk they consumed. He did not see why the use of preservatives generally in milk should tend to veil the effects of partial decomposition.

Do you think that the use of preservatives is in the interests of the public health or not?—I should say yes, because I think the amount of disease produced, especially in children, by allowing milk to go at all bad is probably greater than the amount of disease produced by the use of preservatives.

You would rather have preserved milk than decomposed milk?—Certainly.

Would you advocate the continuation of the present state of affairs in which the use of these things is absolutely unrestricted, one may say, and in which as much as 20 grains of boric acid have been found in a single pint of milk?—That is a state of things which one would like to make impossible, for the 20 grains are not required for the preservation of the milk.

Would you therefore have a maximum fixed?—I think that that would be the best way out of the difficulty.

In further examination by Dr. BULSTRODE witness said it was quite possible that the action of a medical practitioner might be stultified by the presence of a preservative in the food of his patient, and from that point of view the uncontrolled use of preservatives was to be deprecated by the medical profession. Salicylic acid had to be used with care because it was a depressing drug, and benzole acid he had found to be very irritating. Summarising his position Dr. HUTCHISON said that in his opinion the uncontrolled use of preservatives was a thing to be deprecated, but if they were used in the quantities required to prevent putrefaction he should think that they did very little harm, if any, and that that harm would probably be confined to specially susceptible persons, who were probably not numerous, and that the harm likely to result from food going at all bad from want of preservatives would probably be greater than the harm which would result occasionally from the use of preservatives in the quantities required to preserve the food.

By Professor THORPE: While milk purveyors might be able to carry on their business without preservatives he did not think that milk kept in the homes of the poor could be so kept in sound condition without the addition of preservatives.

Dr. G. F. STILL, from the Hospital for Sick Children, Great Ormond-street, was the next witness, and in reply to Professor THORPE said that his experience of the effects of boric acid was limited to children. Taking two and a half grains of boric acid and the same dose of borax in a pint of milk, he should say, as far as his experience went, that it usually produced no harmful results whatever, though now and then it produced some looseness of the bowels. He was quite sure that in some cases borax and boric acid produced a really good result. He had found that when boracised milk was stopped bad symptoms in the child had supervened and these only disappeared when the taking of the boracised milk was resumed. In the case of older children he had found a very definite improvement in epilepsy from borax. He should say most emphatically that no preservatives should be used in milk if they could guarantee milk being kept from decomposition otherwise. At the present time it was practically impossible in the homes of the poor to get conditions in which milk could be kept without decomposition. From his experience he said that much of the weakness and sickness among the children of the upper classes was due to the pasteurising and sterilising of the milk. The children failed to gather strength and develop when they took this boiled milk and when they were given fresh milk they improved. He could not say what chemical change took place on the milk being heated but something apparently was destroyed. In his opinion infantile scurvy came from the use of sterilised milk.

By Dr. BULSTRODE: He had no objection to milk being treated with cold, though it was conceivable that it might produce scurvy just as heat did. He thought it would be a great advantage to a medical practitioner to know when a patient was taking in his food the drug which he prescribed to him for his trouble.

Dr. R. W. HOPE, medical officer of health of Liverpool, examined by Professor THORPE, said he saw no need whatever for the use of chemical preservatives in milk. The vast proportion of the milk sold in Liverpool was wholly free from them, though much of it came from a considerable distance, thus indicating that preservatives were unnecessary if due care and cleanliness were observed. He considered that the use of preservatives in milk and cream occasioned great risk of injury to the health of young children, because preservatives which would check putrefactive changes in milk and cream would also check the processes of digestion. In his experience the use of preservatives in other articles of food, such as butter, bacon, pork, fish, pork-pies, and sausages, was becoming more and more extensive, and though he had not the same objection in regard to such articles, still he did not think it was desirable that they should contain preservatives. He had several instances of injurious results from milk containing boric acid. In one case a lady told him she arranged to give a milk-dealer twice his price on condition that he sent her for her child nothing but pure milk. At her own cost she had the cows examined by a veterinary surgeon to see that they were all right. The child went on very well until one day when it became violently ill. The lady went at once to the milk-dealer and he admitted that he had put some boric acid into the milk. Witness then gave evidence as to salicylic acid in jam and British wines and as to colouring matters in egg powders, sausages, &c. With regard to the latter subject he said that when colouring matters were used the fact should be stated on the label as well as the nature and quality of the article and the date on which it was added.

By Dr. BULSTRODE: It was quite new to him to hear that sterilised milk produced infantile scurvy. This milk was largely used at St. Helen's and the results carefully noted and no bad results had been recorded.

Dr. E. H. STARLING, examined by Professor THORPE, said he had been deputed to attend and give evidence by the Royal College of Surgeons of England. As the result of experiments made by him he had come to the conclusion that formalin should be absolutely prohibited in food. Salicylic acid was certainly less harmful, though in an acid medium it acted as an antiseptic and prevented the action of the digestive juices. It was a fairly potent drug—extremely potent in certain individuals—and he did not think it ought to be given except as a medical remedy. Boric acid was the least harmful of the three preservatives, and from experiments carried out upon a healthy animal during a few days or weeks one could not see much bad results. On medical grounds he should not object to the use of boric acid from its action, especially in milk. He thought it extremely unlikely that infantile scurvy was caused by the use of sterilised milk, though he knew, of course, that there were medical men who did not agree with him in this opinion. He had never come across a case of infantile scurvy which could be attributed to sterilised milk. In his opinion the milk-supply of large towns could be carried on without recourse to boric acid and he should be disposed to prohibit its use.

By Dr. BULSTRODE: On general principles he objected to the use of antiseptics in food because he thought the human economy must suffer from them just as the micro-organisms suffered.

TUESDAY, MAY 8TH.

The Committee met to-day in full strength and examined four more witnesses.

Mr. CARL W. SORENSEN, Consulting Expert to the Manchester Pure Milk Supply Company and formerly Chief Dairy Expert to the New Zealand Government, was the first witness and in the course of examination by Professor THORPE said that while a maker and shipper of butter in New Zealand he experimented with preservatives and he found that there was nothing to be gained by their use. The preservatives did not affect the price of the butter in any way and as they

entailed considerable expense he gave them up. When at a later period he became Chief Dairy Expert to the Government he found the butter-makers of the colony very much divided in opinion as to the value of preservatives. He observed that a number of large factories were using them and claiming that they got a considerable benefit from them, but others equally large were not using them and were finding results quite as satisfactory. He accordingly instituted a series of inquiries and sent out a circular inviting the opinion of owners and managers of factories. Of the replies to this circular 60 per cent. were to the effect that preservatives were unnecessary, 20 per cent. were neutral, and 20 per cent. were in favour of the moderate use of preservatives. At the time when he left New Zealand two-thirds of the butter exported to this country was not treated with preservatives, but as to the state of things at the present moment he could not give evidence, though he had reason to believe there had been some increase in the use of preservatives since he left the colony. In his experiments he found that ½ per cent. of boric acid was as efficacious for preserving as any larger quantity, and, further, that if this quantity were exceeded the flavour of the butter was distinctly affected. His experiments left him unconvinced that there was any necessity to use preservatives in New Zealand butter. On the subject of milk witness related to the committee the conditions of the milk-supply of Copenhagen and expressed the opinion that if a city like Copenhagen could do without preservatives there was no necessity for them in large communities in this country. One great feature of the Copenhagen system, he said, was that there was only one delivery of milk per day. The advantage of this was a reduction in the cost of delivery which enabled more money to be spent on getting pure milk from healthy cows and enforcing precautions as to cleanliness both in the farms and in the course of distribution without raising the price of the milk to the consumer. In Manchester they had one delivery per day simply by cleanliness and prompt cooling of the milk. During the late winter their farmers had succeeded in obtaining a supply of natural ice or snow to be used during the present summer; it was stored in peat moss or sawdust and would be taken out from day to day as required. In his opinion ice was not so difficult to get in this country as most people supposed. In nine years out of ten it was possible to get all the ice or snow required for dairy purposes. At first in Manchester they found some prejudice against the single delivery per day, but this was quickly disappearing, as people discovered that the milk kept perfectly and that the single delivery saved a great deal of trouble. The company insisted on every farmer cooling the milk to 40° F. as soon as it came from the cow. In the same way with regard to cream, he saw no necessity for its being chemically treated if the trade were carried on on proper lines.

By Dr. BULSTRODE: For a single delivery per day it was absolutely necessary to have ice and for a twice a day delivery it was possible in his opinion to get on without ice by simply cooling the milk with water.

By Professor THORPE: The company were advised by medical experts that sterilised and pasteurised milk was harmful to children and therefore they had decided not to sterilise or pasteurise.

Mr. ALEXANDER RICHARD ANDERSON, surgeon to the General Hospital at Nottingham, examined by Professor THORPE, said that he began to prescribe boric acid, chiefly in cases of bladder trouble, in 1892, and as he found it to do good in such cases he had continued its use both in hospital and private practice. When he began to prescribe it he was not aware that it caused any unpleasant or harmful symptoms and his attention was first directed to the matter by the patients themselves. His experience had been chiefly among adult males and the drug had been prescribed in doses of from 10 to 20 grains three times a day. He found that after taking the medicine in these doses the majority of patients within a fortnight began to complain of dyspeptic symptoms. By that he meant such symptoms as refer to the region of the stomach, uncomfortable sensations after eating, loss of appetite, giddiness, weariness, nausea, and in some cases actual vomiting and eruption on the skin. On discontinuing the medicine these symptoms quickly subsided and they reappeared when the administration was resumed. This had occurred so often in his practice that he was in the habit of telling patients that the medicine would probably make them dyspeptic and that when such symptoms occurred the medicine must be discontinued for a time. Since Jan. 1st of this year he had prescribed boric acid in these doses to 12 patients and of these eight became so dyspeptic that he had to omit its use. The symptoms produced by boric acid were not, as a rule serious and they always quickly subsided when the drug was discontinued, but the dyspepsia was in his experience sufficiently pronounced to make life quite miserable while it lasted and at times it caused distinct gastritis with repeated vomiting. His experience led him to recommend that the use of boric acid in milk should be prohibited. He took it that the average amount of milk adulteration with boric acid was about five grains to the pint. If a healthy adult took a small quantity of milk twice a day with that amount of boric acid in it it would be no detriment to him. But the case was very different with an infant taking perhaps two pints of milk per day and also with an adult, suffering, say, from fever, using milk as the chief or only article of diet.

By Dr. BULSTRODE: He thought it very desirable that a physician should know whether his patient was taking such a drug as boric acid in his food. If his clinical experience was worth anything a child taking 10 grains of boric acid in milk ought to be made dyspeptic by it.

Mr. PHILIP SCHRIDROWITZ, Fellow of the Chemical Society and Member of the Society of Public Analysts, gave to the committee the results of experiments with preservatives in milk. These results, he said, went to show that if the milk were properly cooled there was no need for the addition of a preservative, and he recommended that there should be legislation requiring all milk to be cooled to 15 degrees Centigrade. He expressed the opinion that there would be no practical difficulty in getting this temperature at all farms where there was an adequate water-supply. On the subject of beer adulteration Mr. Schridrowitz said that since he had given evidence before the Beer Materials Committee the use of sulphides had increased and of salicylic acid decreased.

Mr. HENRY SYMONS, of Messrs. John Symons and Company, cider makers, who was the last witness examined, gave the opinion that in some circumstances the use of preservatives was desirable in cider and recommended that they should be allowed within limits.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, J. B., ET FILS, Paris.

Précis de Toxicologie Clinique et Médico-Légale. Par Dr. Ch. Vibert. 1900.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.

Diseases of the Gall-Bladder and Bile-Ducts, including Gall-stones. By A. W. Mayo Robson, F.R.C.S., assisted by F. Macrae, M.B., C.M. Glasg. Second edition. 1900. Price 10s. 6d. net.

A Treatise on Nasal Suppuration. By Dr. Ludwig Grünwald of Munich. Translated by Wm. Lamb, M.B., M.C. Edin., M.R.C.P. Lond. Illustrated. 1900. Price 10s. 6d. net.

Treatment by Hypnotism and Suggestion, or Psycho-Therapeutics. By C. Lloyd Tuckey, M.D. Aberd. Fourth edition. 1900. Price 7s. 6d. net.

CASSELL AND COMPANY, London.

Tuberculosis: Its Nature, Prevention, and Treatment, with special reference to the Open-Air Treatment of Phthisis. By A. Hellier, B.A., M.D., C.M. Illustrated. 1900. Price 7s. 6d.

CHURCHILL, J. AND A., Great Marlborough-street, London.

The Clinical Examination of Urine, with an Atlas of Urinary Deposits. By L. Scott, M.A., M.D. Illustrated. 1900. Price 15s.

The Diagnosis and Treatment of Eczema. By Tom Robinson, M.D. Second edition. 1900. Price 3s. 6d.

On the Operative Surgery of Malignant Disease. By H. T. Butlin, F.R.C.S., D.C.L., and Others. Second edition. 1900. Price 14s.

A Text-book of Medical Treatment, Diseases and Symptoms. By N. Tirard, M.D. Lond., F.R.C.P. 1900. Price 15s.

DUCKWORTH AND CO., Henrietta-street, Covent-garden, London.

A Glossary of Botanic Terms, with their Derivation and Accent. By B. D. Jackson. 1900. Price 6s. net.

FISCHER, GUSTAV, Jena.

Lehrbuch der Klinischen Hydrotherapie. Von Dr. M. Matthes. 1900.

GLAISTER, H. J., Wigmore-street, Cavendish-square, London.

Practical Gynecology. A Handbook of the Diseases of Women. By H. Smith, M.A., M.D. Oxon. Second edition. 1900. Price 5s. net.

GOERICZ, R., Braunschweig.

Einfachste Lebensformen des Tier und Pflanzenreiches. Von B. Byferths. 3 Auflage, bearbeitet von Dr. W. Schoenichen und Alfred Kalberlah. 1900.

GRIFFIN, CHAS., AND CO., Exeter-street, Strand, London.

The Anatomy of the Central Nervous Organs, in Health and in Disease. By Dr. H. Obersteiner. Second edition. Translated by Alexander Hill, M.A., M.D., M.R.C.S. Illustrated. 1900. Price 30s.

JOHNSTON, W. AND A. K., Edinburgh.

Canine and Feline Surgery. By F. T. G. Holday, F.R.C.V.S. 1900. Price 5s.

MACMILLAN AND CO., London.

A Manual of Medicine. Edited by W. H. Allchin, M.D. Lond., F.R.C.P., F.R.S. Edin. Vol. I., General Diseases. 1900. Price 7s. 6d. net.

MALOINE, A., Paris.

Manuel Complet de Gynécologie Médicale et Chirurgicale. Par A. Lutaud. 1900.

MASSON ET CIE, Paris.

Leçons de Clinique Chirurgicale. Par Dr. S. Tolemar. Part I. 1900.

Traité de Chirurgie d'Urgence. Par Felix Lejars. Deuxième édition. 1900.

MEDICAL PUBLISHING COMPANY, Bartholomew-close, London.

Cleft Palate and Adenoids, Treatment of Simple Fractures by Operation, Diseases of Joints, Operative Treatment of Cancer, Acquired Deformities, Antrectomy, Hernia, &c. By W. A. Lane, M.S. Second Edition. 1900. Price 6s. 6d.

OLIVER AND BOYD, Edinburgh.

Narrative of Cruises in the Mediterranean. By Wm. Black, L.R.C.S.E. Illustrated. 1900. Price 14s. net.

PHILIP, GEO., AND SON, Fleet-street, London.

Philip's Handy-volume Atlas of the County of London. With Directory and Complete Index. Third edition. 1900. Price 5s.

PUTNAM'S SONS, G. P., Bedford-street, Strand, London.

Money, Silver, and Finance. By J. H. Cowperthwait. Second edition. 1892.

Care and Treatment of Epileptics. By W. P. Letchworth, LL.D. Illustrated. 1900. Price 15s. net.

SCIENTIFIC PRESS, Southampton-street, Strand, London.

Burdett's Official Nursing Directory, 1900. By Sir H. Burdett. Price 5s.

SCOTT, WALTER, Paternoster-square, London.

The "Cinecher" Guide of the Cycling Routes of England and Wales. With Map. Compiled by T. A. Edge. Price 1s.

SPOTTISWOODE AND CO., 54, Gracechurch-street, London.

The Dentists' Register for 1900.

STRAND NEWSPAPER COMPANY, Strand, London.

Passmore Edwards Institutions: Founding and Opening Ceremonies. By J. J. Macdonald. Illustrated. 1900. Price 2s. 6d.

TURNBULL AND SPEARS, Edinburgh.

On Neuroma and Neuro-Fibromatosis. By A. Thomson. Illustrated. 1900. Price 21s.

WARD, LOCK, AND CO., London.

Illustrated Official Guide to Llandrindod Wells, Llangammarch Wells, Llanwrtyd Wells, &c. Illustrated. 1900.

The Nurse's Report Book: compiled by K. H. (H. J. Glaisher, Wigmore-street, London), 1900, price 6d. net.—Transactions of the Life Assurance Medical Officers' Association, London, for 1898 and 1899.—Magazines, &c., for May: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Myra's Journal, Pall Mall Magazine, Windsor Magazine, English Illustrated Magazine, Knowledge, Humanitarian, Wide World Magazine, New Century Review.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ALBUFF, T. C., M.D. Cantab., F.R.C.P. Lond., has been appointed Honorary Physician to Addenbrooke's Hospital, Cambridge.

BENSON, P. L., M.A., M.D R.U.I., D.P.H. Camb., has been re-appointed Medical Officer of Health for the Rural District of Buckingham.

BROCKWAY, A. B., L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon in the Queensland Defence (Marine) Force.

CARTER, EDWARD G., L.D.S., R.C.S. Eng., L.F.P.S. Glasg., has been appointed Dental Surgeon to the St. Helena's Home for Girls, West Ealing, and also to the Hanwell Cottage Hospital.

COLLIER, R. S., L.R.C.P. Lond., M.R.C.S., has received an appointment in South Africa, where he has proceeded, as an ordinary volunteer.

COLLINS, E. TREACHER, F.R.C.S. Eng., has been appointed Surgeon to the Royal London Ophthalmic Hospital, City-road, E.C.

CROSSFIELD, A. K., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for Dartmouth Sanitary Dirtrict, Totnes Union.

DE GRUCHY, C. W., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer by the Caerleon District Council.

EDWARDES-KER, G. C., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Woodbridge District Council.

FISHER, J. H., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Royal London Ophthalmic Hospital, City-road, E.C.

FLEMMING, PERCY, M.D. Lond., has been appointed Assistant Surgeon to the Royal London Ophthalmic Hospital, City-road, E.C.

FORSYTH, ALEC, M.B., C.M. Aberd., Civil Surgeon, has been appointed to fill a vacancy on the Medical Staff of the Western District.

FREEMAN, J., Civil Surgeon, has been appointed to fill a vacancy on the Medical Staff of the Western District.

GORDON, COLIN, M.B., C.M. Edin., has been appointed Medical Referee under the Workman's Compensation Act, 1897, to County Court Circuit No. 57, including Taunton, Bridgwater, Chard, Wellington, Williton, and Langport.

JACKSON, J. J., L.R.C.P. Edin., L.R.C.S. Irel., has been re-appointed Medical Officer of Health by the Wakefield Urban District Council.

JACOBSON, G. O., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fourth Sanitary District of the Chipping Norton Union, vice W. G. Nicholls, resigned.

JAMES, JOHN, L.R.C.P. Lond., M.R.C.S., Fagwyr, has been appointed Certifying Surgeon under the Factory Acts for the Talybont District.

KENDALL, W. B., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Kingswear Sanitary District, Totnes Union.

KINGSTON, H. F., M.B., B.Ch. Dub., has been appointed Medical Officer for the Alsager and Odd Rode Sanitary District of the Congleton Union.

KIRKBY, W., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Maesteg Urban District Council.

LAWSON, ARNOLD, F.R.C.S. Eng., has been appointed Assistant Surgeon to the Royal London Ophthalmic Hospital, City-road, E.C.

MCDOUGAL, GEORGE, has been re-appointed Analyst for Kincardine-shire by the Kincardine County Council.

MORGAN, H. L., L.S.A. Lond., has been appointed Deputy Medical Officer and Public Vaccinator for Cannock.

NORMAN, A. S., L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer for the Second Sanitary District and the Workhouse of the Havant Union, vice W. Bannister, resigned.

OPIE, EDWARD AUGUSTUS, M.B. Durh., M.R.C.S., has been appointed an honorary Medical Officer to the Wellington (Somerset) Cottage Hospital.

RIMMER, J. F., M.B., Ch.B. Vict., has been appointed Resident Assistant Medical Officer for the Workhouse of the Birkenhead Union, vice A. Ingram, resigned.

ROBERTS, KILHAM, L.R.C.P., Lond., M.R.C.S., has been appointed Medical Officer of Health for the combined Ampthill and Woburn Rural Districts.

SPICER, W. T. HOLMES, F.R.C.S. Eng., has been appointed Surgeon to the Royal London Ophthalmic Hospital, City-road, E.C.

UNSWORTH, J. W., M.B., Ch.B. Vict., has been appointed Medical Officer, *pro tem.*, by the Blackrod Urban District Council.

WHILLIS, SAMUEL SHORT, M.D., B.S. Durh., has been appointed Hon. Surgeon to the Fleming Memorial Hospital for Sick Children, Newcastle-on-Tyne, vice Walter Ridley, resigned.

WOLFENDALE, G. A., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Third Sanitary District of the Northleach Union, vice D. Iles, deceased.

WYLLIE, JOHN, M.D. Edin., F.R.C.P. Edin., M.R.C.S., has been elected to the Chair of Medicine, Edinburgh University, vice the late Sir T. G. Stewart.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Birmingham.—Assistant House Surgeon. Salary £60 per annum, with apartments and board.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, Birmingham.—Clinical Assistant.

BIRKENHEAD BOROUGH HOSPITAL.—Visiting House Surgeon. Salary £75 a year, with board, lodging, and washing, but no alcoholic liquors. A further sum is obtained by certain additional fees.

BOROUGH HOSPITAL, Bootle, Liverpool.—Senior Resident Medical Officer. Salary £100 per annum, with board, &c.

BRISTOL ROYAL HOSPITAL FOR SICK WOMEN AND CHILDREN.—House Surgeon. Salary £120 per annum, with rooms and attendance (not board).

CARDIFF INFIRMARY.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.

CHILDREN'S HOSPITAL, Nottingham.—House Surgeon (non-resident) for six months. Salary at the rate of £100 per annum.

CITY OF GLASGOW FEVER HOSPITAL.—Physician Superintendent at the Belvedere Hospital. Salary £400 per annum, with house accommodation, board, and attendance. Applications to Mr. J. Lindsay, City Chambers, Glasgow.

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officer as Locum Tenens for about four months during the summer. Salary £3 3s. per week, with furnished apartments and board.

COUNTY BOROUGH OF HALIFAX.—Medical Officer of Health for the Borough. Salary £500 per annum. Drugs, medicines, and surgical appliances provided by the Corporation. Applications to the Town Clerk, Town Hall, Halifax.

CRAIGLOCKHART POORHOUSE AND HOSPITAL, Edinburgh.—Resident Medical Officer. Salary £100 per annum, with board and apartments. Applications to the Clerk of the Parish Council, Council Chambers, Castle-terrace, Edinburgh.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £130 a year, rising to £150, with board, residence, &c.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for 12 months. Salary £80, with board, residence, and washing.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—House Surgeon and Assistant House Surgeon for twelve months. Salary of House Surgeon £100 per annum. Assistant House Surgeon £50, with furnished apartments, board, and washing in both cases.

DEWSBURY AND DISTRICT INFIRMARY.—House Surgeon. Commencing salary £100 per annum, with board, residence, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing.

DURHAM COUNTY ASYLUM, Winterton, Ferryhill.—Second Assistant Medical Officer. Salary £170 per annum, rising £10 annually to £220, with rooms, board, laundry, and attendance.

ESSEX AND COLCHESTER HOSPITAL, Colchester.—Resident House Surgeon. Salary £100 per annum, with board and washing.

GATESHEAD UNION.—Assistant Resident Medical Officer for the Work-house. Salary £150 per annum, with furnished apartments, rations, and washing. Subject to superannuation deduction. Applications to the Union Clerk, Offices, Prince Consort-road, Gateshead.

GENERAL INFIRMARY AT LEEDS.—House Surgeon for twelve months. Board, lodging, and washing provided.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, London.—House Physician for six months. Salary at the rate of £80 per annum, with board, lodging, and washing in the hospital. Also Junior House Physician for six months. Salary at the rate of £30 per annum, with board, lodging and washing in the hospital.

HARRIS PARISH COUNCIL.—Medical Officer for the Southern Division of Harris. Salary £90, besides other public appointments and private practice. Apply to Mr. T. Wilson, solicitor, Lochmaddy, Clerk.

JESSOP HOSPITAL FOR WOMEN, Sheffield.—House Surgeon, unmarried. Salary £50 per annum, with board, lodging, and washing.

KENT COUNTY OPHTHALMIC HOSPITAL, Maidstone.—House Surgeon. Salary £100 per annum, with board and lodging in the hospital.

LIVERPOOL NORTHERN HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance in the house.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY, Loughborough.—Resident House Surgeon. Salary £100 per annum, with furnished rooms, attendance, and board.

LOUGHTON URBAN DISTRICT COUNCIL, Loughton, Essex.—Medical Officer of Health. Salary £30 a year. Applications to the Clerk to the Council, Loughton, Essex.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Medical Officer for the Dispensary of the above Institution. Salary £180 per annum. Applications to the Secretary, Children's Dispensary, Gartside-street, Manchester.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary at the rate of £40 per annum, with board, attendance, and washing.

MORPETH DISPENSARY.—Medical Officer, unmarried. Furnished rooms, coal, gas, and attendance provided. State salary required.

NEW HOSPITAL FOR WOMEN, 144, Euston-road, London.—Two Fully Qualified Medical Women as Assistant Anæsthetists. Also three Clinical Assistants. These appointments for one year. Also two fully qualified Medical Women as House Physician and House Surgeon.

NORTHAMPTON GENERAL INFIRMARY.—Qualified Assistant to the House Surgeon for six months. Honorarium £25, with board, lodging and washing.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer and Assistant Resident Medical Officer for six months. Salaries at the rate of £50 per annum each.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £140 per annum, all found, except board.

PARISH OF FULHAM.—Second Assistant Medical Officer at the Infirmary, Fulham Palace-road, W., for six months. Salary at the rate of £60 per annum, with board, furnished apartments, and washing. Apply to the Clerk to the Guardians, Offices, Hammersmith, W.

PARISH OF ST. LEONARD, Shoreditch.—Second Assistant Medical Officer for the Infirmary, Hoxton-street, N., for six months. Salary £80 per annum, with rations, washing, and furnished apartments in the Infirmary. Apply to the Clerk to the Guardians, 213, Kingsland-road, N.E.

RIPON DISPENSARY AND COTTAGE HOSPITAL, Ripon.—Resident House Surgeon and Dispenser, unmarried. Salary £100 a year, with board and lodging.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Two Examiners in Dental Surgery. Also Hunterian Professor, the Erasmus Wilson, and the Arris and Gale Lecturers.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

ROYAL PORTSMOUTH, PORTSEA, AND GOSPORT HOSPITAL.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

ROYAL SOUTHERN HOSPITAL, Liverpool.—Junior House Surgeon. Salary, including board, &c., £94 per annum, with a bonus of £5 5s. quarterly. Also Honorary Physician.

ROYAL UNITED HOSPITAL, Bath.—House Surgeon on June 1st for four months. Salary at the rate of £100 per annum, with board, lodging, and washing.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand.—Clinical Assistants for six months.

ST. MARY'S CHILDREN'S HOSPITAL, Plaistow, E.—Assistant Resident Medical Officer for six months, unmarried. Salary £30 per annum, with board, residence, laundry, &c.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with board and washing.

SOUTHPORT INFIRMARY.—Resident Senior House Surgeon. Salary £80 per annum, all found.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

SUSSEX COUNTY HOSPITAL, Brighton.—Resident Pathologist, unmarried. Commencing salary £40 per annum, with board, residence in the hospital, and washing. Also House Physician, unmarried. Commencing salary £50 per annum, with board, residence in the hospital, and washing.

THE CHIEF INSPECTOR OF FACTORIES gives notice of vacancies for Certifying Surgeons under the Factory Acts at Tadcaster, in the West Riding of the County of York, and at Maesteg, in the county of Glamorgan.

THREE COUNTIES ASYLUM, near Hitchin.—Second Assistant Medical Officer (male), unmarried. Salary commencing at £150 per annum, with board, apartments, washing, and attendance.

TIVERTON INFIRMARY AND DISPENSARY.—House Surgeon and Dispenser, unmarried. Salary £75 per annum, with board and residence.

WARNEFORD HOSPITAL, Leamington.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

YORK LUNATIC ASYLUM, Bootham, York.—Assistant Resident Medical Officer. Salary £130 a year, with board, washing, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

COOKE.—At Lanowli, near Bombay, on March 30th, the wife of Dr. R. Hunt Cooke, M.A., of a son.

HICKMAN.—On April 26th, at Overton House, Wanstead, Essex, the wife of Herbert V. Hickman, M.B. Lond., M.R.C.S., L.R.C.P., of a son.

LEICESTER.—On May 2nd, at the residence of her brother-in-law, Minto-street, Edinburgh, the wife of Morton B. Leicester, M.D., of a daughter.

ROSS.—On May 7th, at Kilcran, Hilsea-terrace, Portsmouth, the wife of Richard Adolphus Ross, Surgeon Royal Navy, of a son.

MARRIAGES.

EDWARDS—HILL.—On May 2nd, at the parish church, Ludlow, by the Rev. H. ff. Clayton, M.A., rector, Lewis Charles Edwards, M.B., C.M. Edin., son of the late Rev. T. Charles Edwards, D.D., Principal of the University College of Wales, Aberystwyth, to Lilian, third daughter of the late R. C. Hill, Esq., Newcastle, Staff, and of Mrs. Lyon, Killiney, county Dublin.

JONES—RUSSELL.—On the 9th inst., at St. Peter's, Chalfont, by the Rev. F. Woods, vicar of the parish, Dr. J. Llewelyn Jones, of Melton Mowbray, son of David Jones, of Aberdare, to Helena Margaret, secon daughter of the late Canon and Lady Mary Russell.

DEATHS.

DRUMMOND.—On May 5th, at Stoneycroft, Wakeham, Portland, Duncan Drummond, M.B., C.M., aged 38 years.

FLEMING.—On May 7th, at Manor-place, Edinburgh, James Boyd Fleming, M.D., Deputy-Inspector-General of Hospitals.

HIGHET.—At Singapore, on April 7th, Douglas Athelstan Campbell, only son of H. Campbell Highet, M.D., Physician to the Royal Palace, Bangkok, aged 19 months.

TYACKE.—On May 7th, at Westgate, Chichester, Nicolas Tyacke, M.D. Edin., F.R.C.P. Lond., J.P. for Sussex and Chichester, aged 87.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

ANDERSON AND FENNER v. MOELLER.

IT is not often that an action between a patient and his medical man comes before such a high authority as the Court of Queen's Bench. On May 8th and 9th, however, the Lord Chief Justice and a special jury were engaged in hearing an action brought by Dr. W. M. A. Anderson of Wimpole-street and Mr. Robert Fenner of New Cavendish-street, against Mr. Charles Moeller to recover the sum of £144 13s. for medical and surgical attendance upon the defendant. The plaintiffs had attended the defendant from April 5th until June 29th, 1899, when Mr. Moeller was found to be prescribing for himself and the plaintiffs accordingly withdrew from the case. Mr. Moeller was suffering from some rather obscure form of streptococcus poisoning which gave rise to articular troubles and phlebitis, together with endocarditis. The articular mischief was treated locally by hot soda baths and a hot-air bath. Dr. Anderson admitted that in a letter to Mr. Moeller's brother-in-law he had called the illness "rheumatic gout." Defendant's argument was that he had derived no benefit from the treatment but that he had suffered actual injury, and that the charges were excessive. In addition to the attendance of the plaintiffs defendant had seen Sir Thomas Lauder Brunton, Mr. Alfred Cooper, and an anæsthetist. He contended that the charges were excessive. Finally the jury found for the plaintiffs on the claim for fees, allowing 100 guineas; they also found for the plaintiffs on the counter-claim for damages, adding the following rider: "We are of opinion that the plaintiffs treated the defendant with all reasonable care and skill, and we attach no blame to them whatever." We congratulate Dr. Anderson and Mr. Fenner on the jury's vindication of their care and skill. The case was one of those in which the patient was undoubtedly very ill, but also irritable and hysterical. In fact, the Lord Chief Justice stigmatised his conduct as childish. We must enter a protest against Mr. Lewis Walton's remarks in his capacity as counsel for the defendant. It was doubtless his business to make out that Mr. Moeller was an ill-used martyr, and we do not complain of that, or even of his talking about the gross blunders of the plaintiffs. If the diagnosis was in doubt for some time it is quite certain that the two medical men would know a great deal more on the matter than would Mr. Walton. But what we do complain of is this. He is reported in the *Times* to have said: "The plaintiffs from their position as general practitioners ought to make very moderate charges, but a most exorbitant amount had been sent in to Mr. Moeller—£141 for 84 days' attendance—that amounted to nearly two guineas a day. That was not creditable to these gentlemen and it was for them to justify their account." Why, we should like to know, should a general practitioner necessarily be so very moderate in his charges? His education costs a great deal and although general practitioners do any amount of work for nothing they have a right to charge a well-to-do patient at a higher rate than a poor one. Mr. Moeller admitted that his income was £800 a year and he lives in Piccadilly at No. 201 which is not exactly the abode of a poor man. Besides, 84 days at two guineas a day amounts to £176 8s., and there is a good deal of difference between that sum and the sum which was charged. However, neither the jury nor the Lord Chief Justice seemed to agree with Mr. Walton, which was satisfactory for the plaintiffs.

UNUSUAL LAPSE OF TIME BETWEEN TWO PREGNANCIES.

To the Editors of THE LANCET.

SIRS,—On Sunday last, May 6th, I attended a woman, aged 47 years (in March last) with her third child, the second child being a young woman, 21 years and 10 months old. I believe this lapse of time, just upon 22 years, constitutes a record. I am sending you the facts for publication, feeling sure they will be of interest to your obstetric readers. The labour was not very long, lasting from 1 P.M. to 7 P.M., and was quite natural. The mother and child, a daughter, are doing well.

I am, Sirs, yours faithfully,

Baher, May 9th, 1900. FREDERICK PRIDHAM, L.R.C.P.

THE NEED FOR REGISTRATION.

AN inquest which was held at Eastbourne on April 28th touching the death of a male infant, aged seven weeks, brought out several points of importance both to medical men and to the public. The mother stated that she had been attended in her confinement by Mr. Hillyard, a duly qualified medical man. On the day of the child's death the mother had to go out and left the child with her mother. He became suddenly ill and Mr. Hillyard was sent for, but he refused to attend. She still owed Mr. Hillyard 15s. The grandmother corroborated her daughter's statement and said that although she promised that the debt should be paid during the week Mr. Hillyard still refused to attend and also refused to give a death certificate. Dr. W. G. Willoughby, who made the post-mortem examination, said that death was due to natural causes and that the child had

not been neglected. The coroner then informed the jury that Mr. Hillyard was not registered and of course in that case he could not give a certificate. Mr. Hillyard's name was, however, only removed from the Register because he had failed to give notice of a change of address. One of the jury made the interesting remark that since Mr. Hillyard was not registered he should not practise. The coroner pointed out with regard to Mr. Hillyard's refusal to go that while it might seem harsh medical men had as much right as anyone else to be paid. A verdict was given in accordance with the medical evidence. The Medical Register, as we have upon several occasions had to point out, is by no means a model of accuracy. While, however, this is in many instances the fault of the authorities who are responsible for its publication, it is also due in great part to the shortcomings of members of the medical profession themselves. If a medical man changes his address he should by all means give notice to the Registrar. If he does not do so he knows very well that he may be struck off, and to be struck off the Register is a serious matter for a medical man. Not that it debars him from practising, but it cuts him off from the company of legalised practitioners. It debars him from suing for fees, from acting as a medical witness in a court of law—a fact which the coroner impressed very strongly upon Mr. Hillyard—and prevents him from signing a death certificate. The coroner also mentioned that Mr. Hillyard had informed him that he had applied to have his name re-instated on the Register, so that he will no longer suffer from the disabilities to which we have alluded.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—I shall deem it a favour if you or any of your readers can tell me of any home or institution for epileptics where a patient of mine can be taken permanently for a small weekly payment. Thanking you in anticipation and enclosing my card,

I am, Sirs, yours faithfully,

April 29th, 1900. PRACTITIONER.

THE NOMENCLATURE OF VENEREAL CONTAGIOUS DISEASES.

To the Editors of THE LANCET.

SIRS,—At the International Congress on the Prevention of Venereal Diseases, held at Brussels last September, a desire was expressed that a uniform nomenclature of venereal diseases should, if possible, be agreed upon by all nations. From the Report of the Health of the Navy in 1898, lately published, I see that in the navy all venereal sores are still classed as "primacy syphilis," whilst on the continent statistics of venereal contagions separate the initial lesion of syphilis from the soft sore. In Norway this latter classification has been in force since the year 1879 and all cases of syphilis, hereditary syphilis, soft sore, and gonorrhœa are notified separately in Christiania with great care every week to a central authority. At the Brussels Congress objection was made on this ground to our British army and navy venereal statistics. M. Pileur, a well-known physician attached to the St. Lazare Hospital of Paris, said (*Compte Rendu du Congrès*, p. 209), when referring to our army medical statistics: "By an error, which science more and more rejects, our neighbours (the English) continue to place in the rubric of chancre both the primary accident of syphilis and the soft sore." I had myself to make the same criticism of some army statistics brought forward by Major MacPherson, R.A.M.C., at the Congress, and it seems to me that M. Bassereau put the matter clearly before the profession in 1838. Would it not be possible to come to some agreement on this point and then, when notification is adopted, as it seems likely to be by most civilised nations, a similar set of statistics may be obtained for comparison?

I am, Sirs, yours faithfully,

CHARLES R. DRYSDALE,
Formerly physician to the Rescue Society of London.

London, April 30th, 1900.

AN UNREGISTERED DENTIST FINED.

At the Guildford Borough Police-court on Monday, May 7th, before the Mayor, Mr. H. Peak, and other magistrates, Albert Palmer, of 7, Market-street, Guildford, was charged that he did use the name and title of dentist, and also the titles, additions, and description following, and implying that he was a person specially qualified to practice dentistry—viz., surgeon dentist and registered dental surgeon—he not being registered under the Dentists' Act of 1878 and not being a qualified medical practitioner. Mr. Dunlop Hill, barrister, instructed by Mr. R. Gale Crowdy, appeared to prosecute on behalf of the General Medical Council of the United Kingdom, and Mr. Wells, solicitor, represented the defendant, who pleaded guilty. Mr. Dunlop Hill said he appeared in support of the summons which had been instituted by the General Medical Council. The offence alleged against the defendant was that he had used the name of R. J. Smith and did in the terms of the information laid against him use the name of dentist and R.D.S., he being at the time an unregistered person, thereby contravening the Act of 1878. The offence was a somewhat serious one. The Bench would see that the scale of charges put forward by the defendant in his advertisements published in the local papers and directories was very low. The persons affected by that class of offence belonged to the working-class and it was viewed by the General Medical Council as a serious one. There was nothing more for him to do than prove that the defendant had brought himself within the Act, the third section of which had been contravened, and which stipulated a penalty of £20. The defendant has taken the name of R. J. Smith, who for several years did carry on a practice as a dentist, but in June last he died. Since then the defendant had taken over the practice. In November he announced that he was a R.D.S. and advertised in the Guildford almanacks that his business was carried on under the English and American system, the scale of charges being: tooth extraction, 1s.; new set of false teeth, one guinea; consultations free. Evidence was then called. Mr. Edward J. Smith proved that his father died on June 13th, 1899, and Mr. Gale Crowdy said that he was conducting the prosecution on behalf of the General Medical Council. He produced a copy of the Register and papers in which the defendant had advertised. Mr. Brooke, canvasser, and Mr. Laban also gave evidence as to the receipt of advertisements. Mr. Wells, solicitor, said that for 13 years the defendant had acted as manager to Mr. Smith and had obtained an expert knowledge of dentistry. He had a large number of patients in the town, including members of the corporation, to all of whom he had given satisfaction. He admitted that he had made a mistake and had omitted the words R.D.S. from his advertisements and was endeavouring to do the right thing.—Mr. D. Hill: The public are led to believe that he is duly qualified because he uses the name of R. J. Smith.—The magistrates retired to consider their decision. On their return the mayor said that the bench had decided to impose the mitigated penalty of £5 and the costs 15s. 6d.

THE EXEMPLIFICATION OF A NOBLE EXAMPLE.

To the Editors of THE LANCET.

SIRS,—Enclosed is a beautiful sample of how our services are paid. The representative of the Company promised verbally on behalf of the Company that my services would be paid for by the Company. The patient, who was a "freeman" of the Company, was attended by me for four years, my bill coming to £45. My recompense is the following, which, though very nice and sweet, will not pay for horses, carriages, or grocer's bill. The company supported the man during his illness, paid his passage to Australia, and even advanced the widow money. The doctor's payment consists in his being a noble example one meets in the profession.

I am, Sirs, yours faithfully,

D. MOWAT, M.D. Edin.

May 7th, 1900.

[ENCLOSURE.]

———— Hall, E.C., May 5th, 1900.

DEAR SIR,—I am sorry to tell you that I cannot get the Company to alter their decision. I much regret it, for the devotion and attention you rendered to poor ———— was worthy of a better result than the one you have received, but it exemplifies the noble examples one meets with in your profession,

Yours truly,

———.

"THE SEAL OF PROFESSIONAL SECRECY."

To the Editors of THE LANCET.

SIRS,—With due deference to the Nottingham magistrates, to whom you refer in your article (May 5th), and who appear to recognise some validity in the objections of Dr. Hunter to answer questions, or practically to refuse to give evidence in a court of law on the ground that by so doing he would be guilty of "a breach of professional secrecy," such a view, if generally maintained, would evidently baulk the administration of justice in a divorce or other court. The idea which Dr. Hunter appears to entertain that by answering questions in a law court he would violate his professional oath to the Scottish University of which he has the honour to be a graduate, I submit, has no reference to "professional secrecy," as clearly the University in question never so much as hinted at a graduate refusing to give evidence in law; neither, indeed, would it have authority to qualify such an oath. It may be, as Dr. Hunter states, never have been decided in the higher courts as to what constitutes "professional secrecy," but the idea of refusing to answer questions on the ground that a witness would be amenable to an action at law because no enactment exists to indemnify him would scarcely stimulate the most litigiously-disposed person to raise a legal point on that score, and he may feel fairly comfortable on that ground.

I am, Sirs, yours faithfully,

May 8th, 1900. M.R.C.S.

H. E. (West Dulwich) describes his condition quite clearly, but we do not give medical advice. If he tells his medical man what he has told us he will learn the course to be pursued.

Perplexed.—It is usual to charge half, but some practitioners charge less, while we think a little more than half should be charged.

Mr. R. B. Anderson's letter has been forwarded to Dr. Glover.

During the week marked copies of the following newspapers have been received: *Sydney Daily Telegraph, N. S. W., Birmingham Daily Post, Scarborough Daily Post, Hull Daily Mail, Liverpool Daily Post, Middlesbrough Gazette, Leeds Mercury, Sussex Advertiser, Derbyshire Courier, Sheffield Daily Telegraph, Western Mail, Glasgow Herald, India Witness (Calcutta), Norfolk Daily Standard, Daily Express, Toronto Globe, Times of India, Pioneer Mail, Dundee*

Advertiser, Leicester Daily Post, Hastings Times, West Ham Guardian, Burnley Gazette, Blackburn Weekly Standard, Citizen, Scotsman, Architect, Builder, Bristol Mercury, Yorkshire Post, Brighton Gazette, Cornish Telegraph, Derbyshire Times, Dorset County Chronicle, Mining Journal, Reading Mercury, Hertfordshire Mercury, City Press, Local Government Chronicle, Local Government Journal, Southampton Observer, Surrey Observer, Forest Hill and Crystal Palace Times, Fulham Observer, Malvern Advertiser, Folkestone Express, Colchester Telegraph, Lincoln Leader, Western Mercury, Irish County Council Gazette, Northampton Mercury, Morning Advertiser, Tunbridge Wells Advertiser, Daily Mail (London), Eight Courant and Courier, &c.,&c.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 10th, 1900.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall.	Solar Radiation Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
May 4	29·98	S.W.	0·14	109	64	46	50	54	Cloudy
,, 5	29·86	S.W.	...	116	72	53	55	60	Cloudy
,, 6	29·74	S.E.	...	86	69	56	56	61	Cloudy
,, 7	29·55	S.W.	0·12	115	68	53	53	57	Cloudy
,, 8	29·60	ENE	...	81	63	51	54	58	Cloudy
,, 9	29·51	W.	0·02	74	58	51	52	54	Raining
,, 10	29·88	N.	0·12	53	52	50	51	52	Raining

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat 2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.)

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (19th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (14th).—SOCIETY OF ARTS.—8 P.M. Prof. V. Lewes: The Incandescent Gas Mantle and its Use. (Cantor Lecture.)

MEDICAL SOCIETY OF LONDON.—8 P.M. General Meeting for the Election of Officers and Council for next Session. 8.30 P.M. Ordinary Meeting. Mr. J. Hutchinson, jun.: Excision of the Gasserian Ganglion for Trigeminal Neuralgia, with series of cases.—Dr. A. Morison: A Clinical Study of the Causes of the First Sound of the Heart.

TUESDAY (15th).—PATHOLOGICAL SOCIETY OF LONDON (Bacteriological Laboratory, King's College, Strand).—8 P.M. Papers and Demonstrations by Prof. Crookshank, Dr. Bullock and Dr. Hunter, Dr. Hewlett, Dr. Newman, Dr. Hewlett and Dr. Rowland, Dr. MacFadyen, Dr. Drysdale, Mr. Shattock, Dr. P. Jones, and Dr. Nash.

WEDNESDAY (16th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—7.30 P.M. Exhibition of Pond Life.

THURSDAY (17th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Paper:—Dr. D. Buxton: Incidents in Surgical Anæsthesia.

FRIDAY (18th).—EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Ordinary Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. R. Crocker: Consultation. (Skin.)

TUESDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. S. Taylor: Consultation. (Medical.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, W.C.).—3.30 P.M. Dr. Risien Russell: Sclerosis of Spinal Cord (lantern demonstration).

WEDNESDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. R. Harrison: Consultation. (Surgical.)

EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Mr. A. H. Tubby: Clinical Demonstration on the Varieties of Coxitis. (Post-graduate Course.)

THURSDAY (17th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

CHARING CROSS HOSPITAL.—4 P.M. Mr. S. Boyd: Surgical Cases. (Post graduate Course.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. T. H. Kellock: Demonstration of Selected Cases.

FRIDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—2–3.30 P.M. Dr. H. Campbell: Class. Clinical Examination of the Nervous System. Demonstration 1. 4 P.M. Dr. D. Grant: Consultation. (Ear.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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